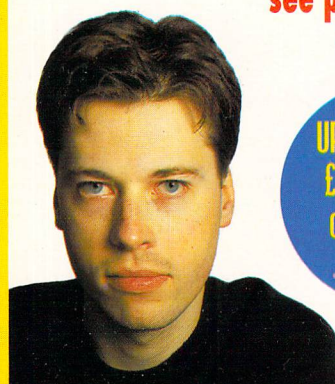


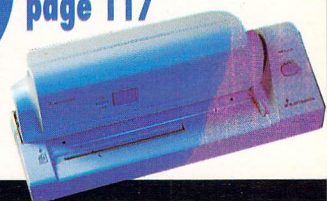
ST FORMAT

He struck **Format Gold** with **Cybercon 3**. Now **Adrian Stevens** picks the best 3D games of all time: see page 73



We reveal the world's first full-page scanner to break the £500 barrier: page 117

UP FOR GRABS!
£1,600 worth of scanners: page 144



SPECIAL 3D ISSUE!

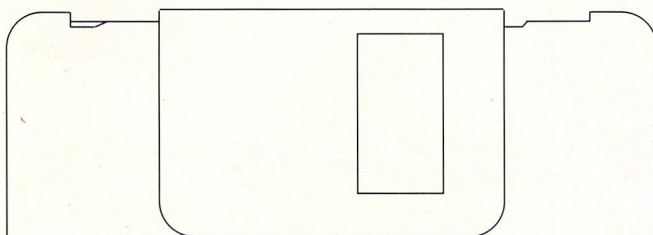
BRITAIN'S BEST-SELLING MAGAZINE FOR YOUR ATARI ST

How can you meet thousands of other ST owners without leaving your seat? Page 102



Build a better world!

Discover how the professionals construct a 3D world, then build your own with our *exclusive* Cover Disk demo: see page 24



ST FORMAT COVER DISK 23

Disk format by Rob Northern

3D CONSTRUCTION KIT

Start building your own world with this versatile demo of Domark's incredible new 3D gameworld creator



REZRENDER

Is this the best 3D object viewer for the ST? Lifelike shading and complex animation at a stroke

PLUS: American Football game; handy **comms** utilities - Code Finder; **BBS database** to auto-dial from **Vanterm**; **68K TO GFA** converts assembly language into **GFA Basic** code; **Chordex music tutor**; **Bullfrog Assembly language** tutorial; seven vital utilities; **Acc Folder** organises Accessories; **DC Disk Info** displays disk contents graphically; **DC Max Track**; **Desk Chooser**; **Polychrome palette-changer**; **ST Type**; **HD Scan** for hard drives

ALL PROGRAMS STE COMPATIBLE

15 dazzling programs!



ON THIS MONTH'S DISK:

A useable demo of Domark's amazing *3D Construction Kit* - create your own stunning 3D environment! See page 38

12 unbeatable pages of top technical and games tips

We rate over 25 Public Domain programs • Program in assembly with those Bullfrogs • We put more than 20 hot new games through their paces

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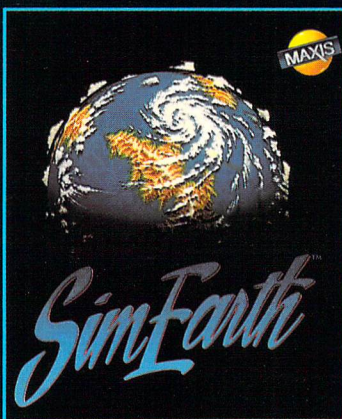


PC SIMS...A SUP

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THE MOST ADVANCED SOFTWARE
ENTERTAINMENT EXPERIENCE

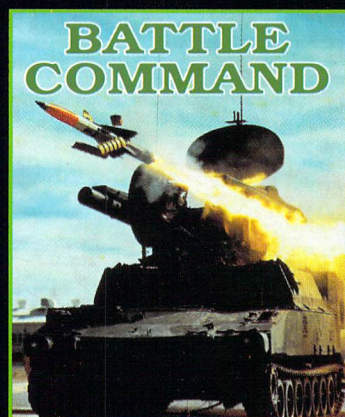
Take charge of an entire planet from its birth until its death-10 billions years later. Guide life from its inception as single-celled microbes to a civilization that can reach for the stars. THE LIVING PLANET Inspired by James Lovelock's Gaia



hypothesis, SimEarth simulates the Earth as a single living organism.

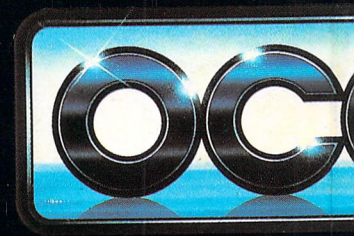
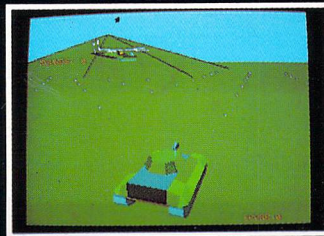
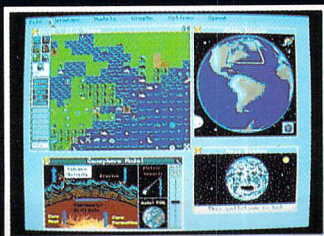
THE THINK TANK

Set in the near future, as an alternative reality Battle Command is an arcade/strategy game in which the player controls a single "Mauler" Assault Tank in one of 16 scenarios (missions) in the ultra war, fought between two dominant races in the new World. Such are the defensive capabilities of each side, full scale attacks are suicidal, so any offensive moves are, by necessity, small "behind the lines" actions performed by elite troops in specially designed vehicles. The Mauler is the latest such machine capable of being lifted in and out of hostile



territory by fast stealth choppers and armed with the most advanced weaponry the Northern scientists can devise.

ALL AVAILABLE
FOR YOUR IBM PC
& COMPATIBLES

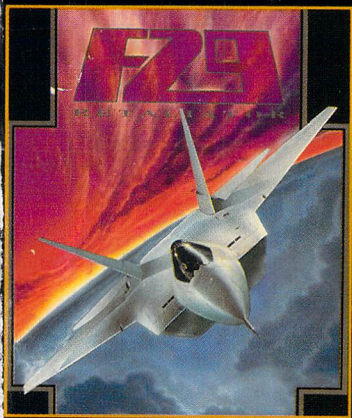


ERIOR SPECIES

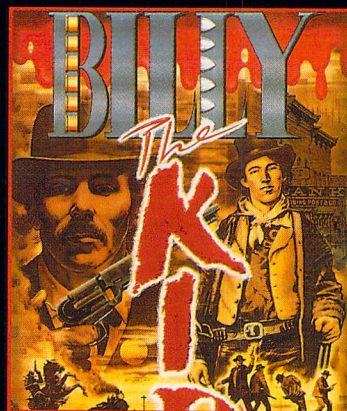
THE RIGHT STUFF

GUN LAW

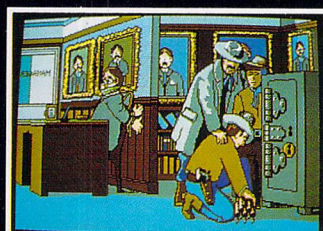
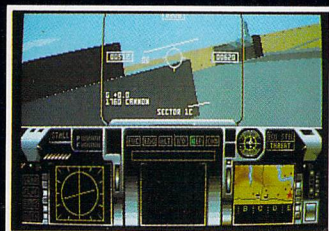
F 29 Retaliator presents the fastest and most detailed graphical environment ever seen in a flight simulator. This is the only flight simulation to provide 100 complex missions over four intense battle scenarios. The only flight simulation to provide detailed daily war update reports. The only flight simulation to present the latest in aerodynamic technology introducing ECOP cockpits, backwinder A A M S , supercruise, stealth and more! F29 Retaliator is that flight simulation.



"BILLY THE KID" is a one or two player action/strategy game set in the Wild West, which allows the player to assume the identity of either a gun totting desperado with a heart of gold , Billy himself or his ex-best friend, sharp shooting, law abiding pillar of the community, Sheriff Pat Garrett. They are in love with the same woman and ultimately, in a nail biting climatic finale, are going to end up pointing guns at each other. Only one



character can walk away from this showdown BUT THAT'S JUST THE WAY OF THE WEST



OCEAN SOFTWARE LTD,
6 CENTRAL ST, MANCHESTER,
M2 5NS.TEL: 061 832 6633
FAX: 061 834 0650

ST FORMAT

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photographs, etc.

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- Satisfy them.

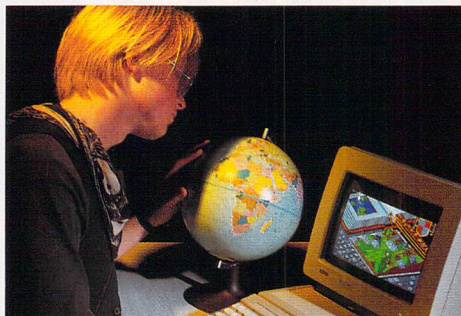
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102 Discover all you
need to talk to
people around the world



50 Get to the bare bones
of *Monkey Island* –
FORMAT Gold or what?

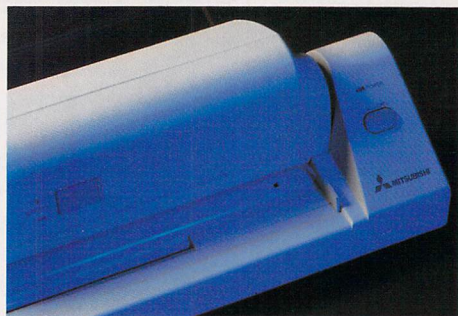
Build a better world

*From classic games
like **Dungeon
Master** and **Falcon**
to today's giants
like **MiG-29** and
Killing Cloud,
we've seen some*



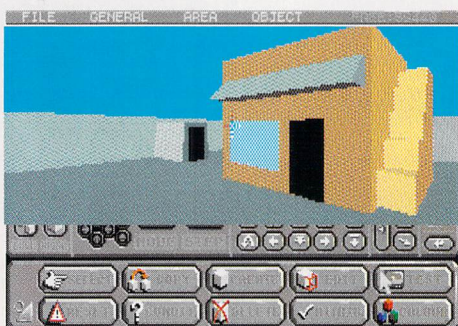
*fantastic 3D worlds on the ST. But the potential
of 3D still hasn't been fully explored. We reveal
how it's done and how to make a 3D system work
effectively. With our exclusive **Cover Disk** demo
of **Domark's 3D Construction Kit**
you can then mould a 3D land-
scape to produce your own 3D
world. Just turn to page 24 and
begin trying it for yourself*





144 Win one of five
scanners in our
special £1,600 competition

36 We lift the
lid on the unique
Cyber family of
3D packages



30 **3D Construction Kit**
gives you the power
to create any land-
scape or building of your
choice. With our Cover Disk
demo you can put the
principles of 3D into action



73 What are the best 3D
games of all time?
Adrian Stevens,
programmer of *Cybercon 3*,
picks his personal top ten

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Cover disk p 38

THE DISK THAT DELIVERS THE GOODS EACH AND EVERY MONTH

15 dazzling programs

on this month's all-action Cover Disk

Enter a new dimension with our fully useable demo of Domark's new 3D world creator, **3D Construction Kit**, and **RezRender**, an incredible 3D rendering package.

Plus: **Chordex** music tutor; **two disk utilities**; a **palette editor**; **hard drive** scanner; **database** of bulletin boards to auto-dial; an **American football game** and much more! also this month: Bullfrog assembly tutorial files, 68000 to GFA code converter, STD Telephone Code finder, Disk Accessory organiser and seven essential utilities



ST FORMAT COVER DISK 23

3D CONSTRUCTION KIT
Start building your own world with this versatile demo of Domark's incredible new 3D gameworld creator





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Is this the best 3D object viewer for the ST? Lifelike shading and complex animation at a stroke

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15 dazzling programs!

ALL PROGRAMS STE COMPATIBLE

3D CONSTRUCTION KIT

BUILD YOUR OWN VIRTUAL REALITY

PIERRE TAYLOR (28) – PORTSMOUTH.

I own a car company, but my real love has always been the idea of space travel. I've often played around with art packages but what I really wanted to do was to design a spacecraft once, then bring it to life and walk around it. This incredible package allows someone like me, who knows very little about computers, to do it easily!

First I put together a couple of blocks to make the fuselage.

Next I added the cockpit and the nose.

Adding detail was easy. I only needed to design one wing, then used the copy, flip and rotate feature to produce the other one.

I added the fuel tank and boosters.

I can now view it from any angle and manipulate it as a single object.

This is a head on view, showing the control panel which enabled me to do it. Not bad eh? Pretty good for a beginner.

PAUL BUCHANAN (22) – EALING – TRANSPORT ECONOMIST.

I've always wanted to design my own house, but I could never really visualise what it would look like once it was built. What would it look like from above? Or from the side? Or what if I wanted to walk through the front door and arrange the furniture? With this marvellous software package, I can do all the things and make my dream house come true.

To start with I put up three simple walls.

Then I made a roof and lowered it down.

I added windows, a picket fence and the first tree in my garden. But the interesting bit was yet to come...

Walking in through the front door, I could see what the rooms would look like.

And using the simple control panel, I could design the furniture and move it around.

Home, sweet home!

CHRIS HALL (15) – STUDENT YORKSHIRE.

I loved Castle Master and wanted to make a similar game myself. I had plenty of ideas but no way of bringing them to life. After all I'm not a programmer.

Using a couple of the many 3D objects included in the pack, I quickly designed my own game landscape.

I wanted to give the game a particular style. This was easily done by using the excellent colouring and shading facilities.

Then I set up some of the conditions which could make the game truly interactive.

Using the simple pull down menus and on screen prompts designing a great game was a doddle – I could even have strength and time bars!

Finally, I dropped in a control panel from several included (although I could have made up my own).

I've sent the finished game to my cousin in Wales. He hasn't got 3D Construction Kit yet ... I reckon it won't be long before he gets a copy.

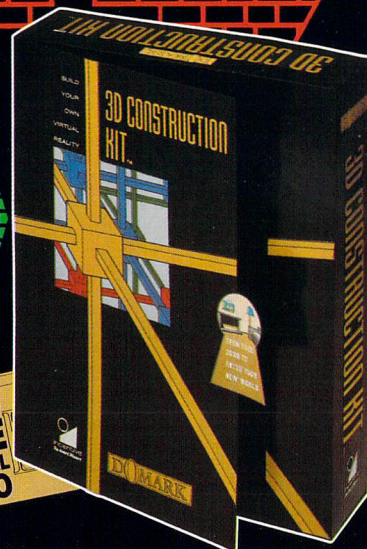
DOMARK

Available on
Amiga, Atari ST, IBM PC 3.5" & 5.25", Commodore 64 (cassette, disk)
Amstrad (cassette, disk) Spectrum +3, Spectrum 48/128.
Amiga Screenshots Designed and Programmed by Incentive Software
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Artwork and packaging © 1991 Domark Software Ltd.,
Ferry House, 51-57 Lacy Road, London SW15 1PR. Tel: (081) 780 2224.

incentive
The Award Winners

Coming soon:
The Incentive Story –
4 award winning Incentive
3D games in one pack!

INCLUDES
FREE
TUTORIAL
VIDEO



It's a simple, effective way to design a detailed environment (house, garden, village, ship, car etc. etc.) and then look around it to make sure you like the look of it from every angle.

There are environments through environments. For instance, the house has rooms, the rooms have furniture, a chest of drawers has compartments, the compartments have secret boxes, the boxes have etc. etc.

It's up to you. The limit is your imagination. Use it for school – or to show Mum how to re-arrange the living room. Dad might be interested in how the garden would look if it were laid out differently – with a new pool? And how would the neighbours see it from their angle? It's easy! Just spin it round!

This is probably one of the most expensive pieces of software you'll buy this year – but at last you can make your computer really show it's potential.

it, this could be the most impressive game creation utility ever released.

Not only does it allow you to create run-time modules complete with animation, shoot-em-up compatibility, puzzle solving, and maze exploration – but it enables you to do it in solid 3D, using a system that's even better than Freescape!

AGE – FEB 9

gives newcomers and non-programmers the power to create solid 3D objects that can be stretched, rotated, suspended, stacked and even given animation effects. Yet the whole system is so user-friendly that it makes most simple art packages look cumbersome.

ST FORMAT – FEB 9

reality, but don't be misled. This is not a boffins only product. I've produced a special video included in the pack which shows you how to do it – and helps get you off to a flying start. After that it's simple and in no time you'll be impressing everyone with 'magical' designs on your computer!

AGE – FEB 9

Calamus, Proxima, Pagestream – upgrades soon

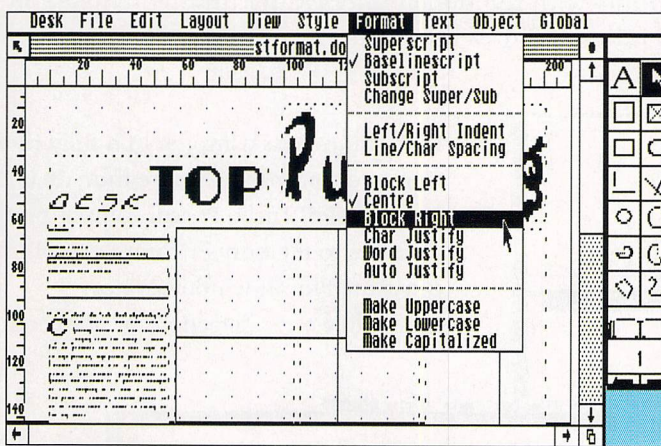
Colour clash as DTP giants unveil new versions

by Andrew Hutchinson

The DTP market is set to explode again, after a lull of some six months. Three of the largest desktop publishing programs have been revised and are set for re-release within the next two months.

Calamus, *Pagestream* and *Proxima* have all been updated, with many new features (see box below), including the capacity to produce full colour output. This means that, for the first time, home ST users can produce magazines just like *ST FORMAT*.

Pagestream 2.0 has been announced by Deron Kazmeir, the managing director of SoftLogik (USA) Ltd. It is being distributed now in the United States and will be available in this country within the next month. The full specification has not been released yet, but Kazmeir revealed that many



■ Will *Pagestream* 2 prove to be as popular as version 1.83?

new features have been added, and aspects such as file formats considerably revised.

So what about release dates? "We expect the upgrade notice to go out in about two to three

weeks," Kazmeir told *ST FORMAT*. "We just got round one proofing out of the way, and as most of the Beta Testers can attest, things have gone real smooth. I can't say for sure when it will be out, but I'm

confident that the manual should be the holdup, not the program."

Proxima 2 from Network News Services is pencilled in for an autumn launch. Text handling, the

continued at bottom of page 9

WHAT THEY OFFER YOU – NEW FEATURES OF THE BIG THREE

Proxima 2

- X-Ray, blocked, reverse X-Ray and exclusive text handling
- Editing of text in columns including cut and paste, search and replace on attributes
- Spell checking and thesaurus
- Selective word count
- PostScript vector font editor, including encapsulated PostScript font editing
- PostScript fonts displayable on screen in either a bit-map or a vector mode
- Object oriented drawing facilities: objects can exist in up to 32 million levels
- Imported CAD drawings retain their level characteristics; the program intelligently identifies such drawing properties as background and foreground
- Bezier curves; smooth lines with click and drag change points
- IFF, TIF, IMG, GEM, DXF, IGES and HGPL file format import and export, giving increased flexibility of file choice
- Colour output with full four colour separation including full registration marking retaining virtual colour

Pagestream 2

- Use of Adobe Type 1 outlines, Adobe Bitmaps, AFM's and CompuGraphic Intellifonts
- New PostScript/ Lino/ColourPS driver combined to improve EPS printing
- IBM EPS, TIFF, MacPaint, GIF, ProDraw and DR2D (object oriented drawing formats)
- IMG print to disk driver, for use with faxes
- Can import and colour separate 24-bit images
- Create documents of any page size (up to 400 feet by 400 feet) with control tracking to .0001 of an em
- Imported EPS files retain their custom colours, which are added to the palette
- Supports spot or process colour
- Entering of colours via a full CMYK box
- Typing and zooming now operate at much higher speeds
- Faster screen re-draws
- Printing to the Atari SLM laser printer is now directly supported
- Display AGFA CompuGraphic's Intellifont hinted outline fonts or the Adobe Type 1 IBM format, using font point sizes from .02 to 183,000 points

Calamus SL

- True what-you-see-is-what-you-get (WYSIWYG) screen display: proprietary outline font technology produces identical results on both the screen and the printer
- Very high printing speeds
- Extensive colour support modular approach to incorporating features
- Fonts can be scaled from 0.1 to 999.9 in tenth of a point increments
- Text and graphics can be rotated 360 degrees
- Text can be fitted around irregular objects
- Seven documents can be loaded at once
- Each object – text, line, fill pattern, picture – can take on any of up to 16.7 million colours
- User can specify colours either by simple RGB mixing method or by an external module such as Pantone
- System can create four films per page for colour separations
- Mount & Print module enables large documents to be split into smaller pieces
- Drivers for import and export functions are contained in external modules so that new ones can be added as the need arises

HAVING TROUBLE FINDING ST FORMAT? TURN TO PAGE 146 NOW!



HighSpeed Pascal

Turbo Power for your Atari ST and TT

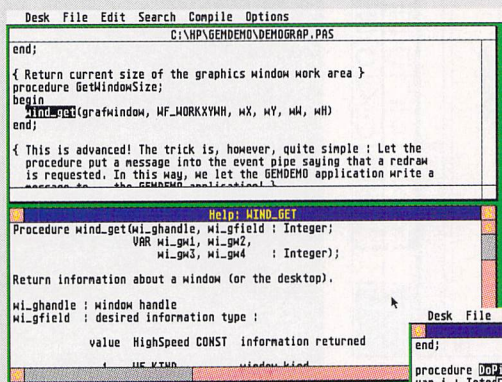
HighSpeed Pascal is a brand-new Pascal system for your Atari ST/STE and TT computers

Designed to be compatible with the hugely successful Turbo Pascal 5.0 on the PC, HighSpeed Pascal is packed full of features that make it simple for everyone to learn and use.

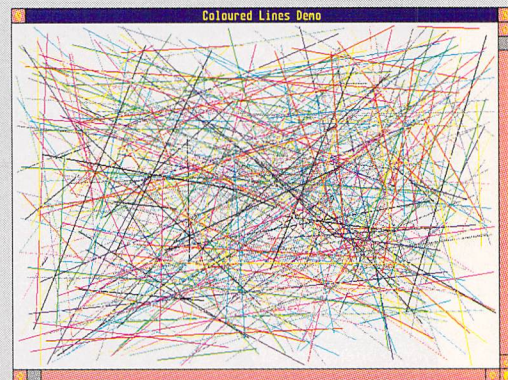
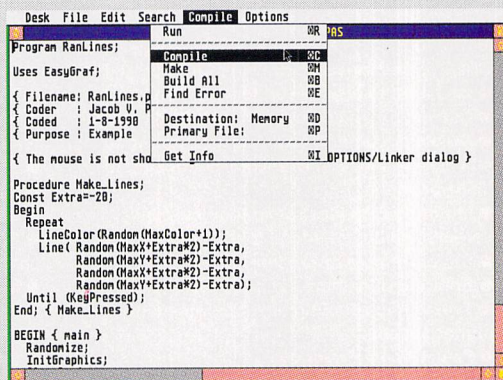
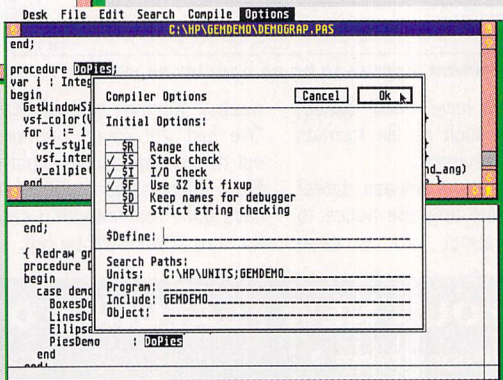
Highlights

- Fast, single-pass compiler in a fully integrated environment
- Compilation speed of more than 20,000 lines per minute (ST)
- High level of Turbo Pascal compatibility with full recursion
- Compile to memory or compile to disk
- Integrated multi-window editor
- Interactive error detection for both compile and run-time errors

- Context-sensitive help for language syntax and editor usage
- Unit concept, such as found in Turbo Pascal 5:
 - allows modular development
 - gives very fast compilation
 - many standard units supplied (GEM/VDI, TOS, BIOS/XBIOS, PRINTER, UTILities, GRAPH)
 - build your units into one resident library - library maker supplied
- Stand-alone compiler also supplied
- Versatile Make facility for easy project management



- Source code control using conditional compilation
- Supports ShortInt, LongInt, Single (4 byte IEEE format), Double (8 byte IEEE format), Extended (a special fast 10 byte format) as well as Integer and Real
- Full source include facility to a depth of 7
- Inline procedures
- Multi-path search facility for include & object files & units
- Special unit to ease porting from Personal Pascal
- Link with DRI-format assembly language code (as produced by DevpacST 2 etc)
- Turbo Pascal compatible dynamic length strings, shift operators, hex numbers, untyped parameters, generic pointers, file handling etc.
- Numerous examples



The integrated development environment is a joy to use, making programming easy and fun!

All these features make HighSpeed Pascal a truly powerful and easy-to-use system which runs on any Atari computer, from the humble 520ST with 1 drive up to the new Atari TT.

Supplied with a quality, ring-bound manual and full technical support from HiSoft, HighSpeed Pascal is the one you've been waiting for! Personal Pascal users - call for a special upgrade offer.

HighSpeed Pascal is available from all good computer stores and costs only £99.95 inclusive (£89.95 before 1 May 1991) for delivery within the UK; if you have difficulty locating your copy, please call HiSoft on 0525 718181 and ask to speak to Julie.

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SLIDERS

Palace Software have two new games on their release list. *Sliders* is an electronic ball game for one or two players. Using a split screen format, the idea is to score goals with an electro-puck while doing battle with gravity, humps, valleys, friction-fields and high-speed one-way lanes. *Sliders* is set for release at the end of June, priced at £25.99.



SWAPPERS

Also due for release at the same time and price is *Swap*, a puzzle game. The idea of the game is to clear a board of coloured tiles by swapping pairs around to create a cluster of the same coloured tiles, which then vanish. There are three types of tile, a competition or race-the-clock mode and configurable tile setup.

REMOTE CONTROL ST

A revolutionary new ST device has been released. The ST-IC infrared controller can learn remote control units' signals and replay them from the ST. It sells for only £39.95.

Any remote device which uses the infrared wave band can be programmed into the unit. This means you can control TVs, videos, compact disc players, tuners, tape decks, amplifiers, even lighting, all from the ST. Program sequences can be stored in memory, so you could pre-set a different sequence of songs for different CDs or turn the lights on and off at set times.

The ST-IC plugs into the ST's printer port and can run on all STs, STfMs and STes in 512K and in colour or monochrome. It is available from Romulus Data Systems, 2 Downs Grove, Southview Park, Basildon, Essex, SS16 4QL.



■ The new Pro 24 MIDI pack from Silica, based on the 1040STE and the popular sequencer, chills 'n' ills its way to under £400

New ST MIDI pack

by Andrew Hutchinson

Recognising the ST's awesome MIDI potential, Silica Systems have put together their own MIDI pack including a 1040STE and the Steinberg Pro 24 sequencer. It sells for £399 – which is very competitive, especially when you bear in mind that a 1040STE on its own normally sets you back 400 quid. .

The 1040STE provides an excellent base on which to build a MIDI setup, and the Steinberg

Pro 24 is a very popular sequencer. It features score editing, multi-track/channel recording, remote MIDI control, automatic timing correction, controller mapping, MIDI filtering and 24 tracks to record on. Pop stars such as Midge Ure, Climie Fisher and Dire Straits use the program with an ST to make their music.

■ Silica Systems live at 1-4 The Mews, Hatherly Road, Sidcup, Kent, DA14 4DX, ☎ 081 309 1111.

➤ Clash of the DTP giants

continued from page 7

editor, fonts, screen display, drawing, images, objects and hardcopy outputs have all been enhanced or tweaked. Most exciting feature is the direct colour output, complete with four colour separation.

Calamus SL, the powerful German DTP package, boasts a true WYSIWYG display, fast printing, and extensive colour support via external colour modules such as Pantone or simple RGB mixing.

Mike Dale of Signa, British distributors of *Calamus*, told *FORMAT* they are keen to get the package right before it's released. "We're busy anglicising the manual at the moment. It's 700 pages long, so it's taking a while. We're also busy with alert boxes and pull-down menus. If it does everything the manual says it does, then it's a truly remarkable package by any standards.

"For example, you can separate a picture 6.5 inches long by 4.25 tall and print it out at 1,275 dpi in

35 minutes to a Linotron 300. That printing speed is a key feature of the new package. You can change the grain of pictures and move all the angles or change screen shape. It's a quite remarkable set of controls. If you take in an outline art picture you can switch on bezier curves and change it in *Calamus* itself."

So when are we likely to see it? "Release depends on the German release date. I won't rush the release at the expense of quality. I suppose you can expect to see it within the next 60-90 days. It'll cost around the £500 mark."

The British distributors of these packages will be offering upgrades to existing users, but prospective buyers should be prepared to part with a lot of cash.

■ **Network News Services can be contacted on 0375 859103, Silica, distributors of Pagestream, on 081 309 1111 and Signa, distributors of Calamus SL, on 0252 370066.**

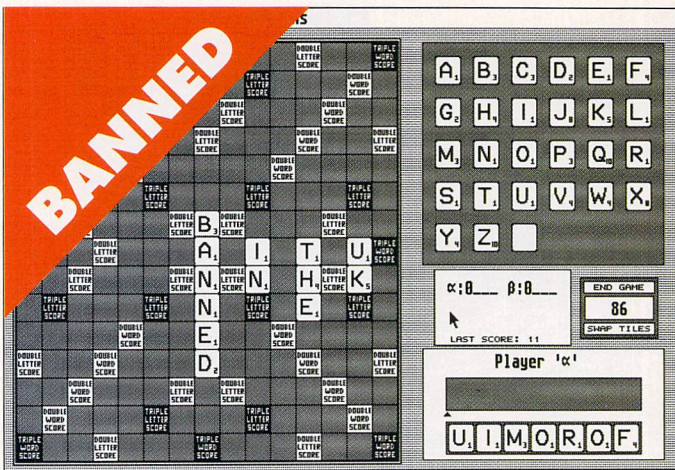
INSIDE THE DTP REVOLUTION

First efforts at desktop publishing programs on the ST were somewhat disappointing. Around 1988 the only packages of any note were *Fleet Street Publisher*, *Publishing Partner* and *Timeworks Desktop Publisher*. *Fleet Street* has been upgraded several times since then and *Timeworks* has remained pretty much as it always was, but *Partner*, an import from Deron Kazmeir's American company SoftLogik, seemed to disappear for a long while. Meanwhile, *Calamus* appeared out of the Teutonic blue. Once all its bugs were sorted out it was obvious that it wore the crown of ST DTP packages, despite being hellishly difficult to use and immensely expensive as well.

Then *Partner* reappeared in a completely new guise, vastly improved and rewritten as *Pagestream*. Unfortunately the early UK release was riddled with bugs and didn't receive the support it needed to gain a foothold

in this country, so although the program was a potential *Calamus*-beater it again sank without trace. A modified version of *Pagestream*, going by the name of *Proxima* and marketed by British company Network News Services, surfaced sometime later, but though it had some routines rewritten and was a substantial improvement it didn't make any great waves.

But Kazmeir and SoftLogik didn't give up. *Pagestream*, now at version 1.8, was re-launched with proper UK support and a solid advertising campaign behind it, and has finally been accepted as the equal and perhaps superior of *Calamus*. Now with both companies poised to make further major updates to the programs – see the main story on page 7 – ST owners are at last entering the arena of serious DTP packages in which Macintosh owners have been sitting smugly for several years.



STrubble trouble

Spears Games are taking legal action against a Public Domain library for distributing a PD game, *STrubble*, based on the ever popular *Scrabble* board game. Spears feel that the freely distributed program infringes their copyright in *Scrabble*.

A spokesman for Spears told *ST FORMAT* that they felt customers were likely to form the view that the game is endorsed or licenced by the company. The legal move is believed to be the first time a commercial manufacturer has sought legal protection against freely distributed software.

Martyn Dryden of The South West Software Library, based in the small town of Wimborne in Dorset,

told *ST FORMAT* that he wouldn't be contesting the action.

"As a spare time business run by enthusiasts, we can't possibly afford £150-per-hour lawyers. When one [legal action] appears, we bend over and prepare for the inevitable." The library has agreed to cease distributing the game and has paid Spear a substantial amount in legal costs.

This legal action could set a precedent. There are many programs in the Public Domain which are either copies or versions of popular games and software packages. Such programs are distributed by most of the PD libraries in this country, and other companies may follow Spears' example.

Major new ST distributor

A new distributor has set up, with the idea of catering for the professional/serious side of ST usage. System Solutions intend to supply Atari hardware as well as a large new catalogue of ST hardware and software.

The Codehead range of software (see World News pages) is to be distributed by the company. This includes *Maxifile 3.1* (a file handling tool), *Hotwire 2.4* (a program launcher), *Multi-Desk* (an accessory handler), *Lookit*, *Poppit*, *Codekeys*, and the *Codehead Utilities* disk. The Bionet 100 Ethernet network will

also be supplied by the company. This network enables you to link STs to PCs and Macs. The ST can run the network as the file server, and the system supports E-Mail, Spooler printing, remote log-on and password protection.

Also in System Solutions' catalogue is the Reflex Graphics card from Titan Designs. This enables you to display resolutions of up to 1024 x 1024 dpi. The board works with Mega STs and costs £249.

System Solutions intend to bundle the Logitech Scanman Plus

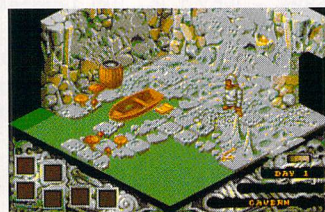
The Bitmap Pay Off

In between releasing their *FORMAT* Gold winning games *Speedball 2* and *Gods*, the Bitmap Brothers have found the time to produce a levels disk for *Cadaver*, the isometric graphic adventure game.

Cadaver: the Pay Off features four new levels, consisting of about 200 rooms. Brand new graphics have been designed for the add-on, which features two enhanced levels from the original game and two new levels.

The Pay Off, to be released by software house Renegade, kicks off where the original game finished: in the Charon Arms. As Karadoc, you've been double-crossed by your patrons, who've done a runner with your cash reward. The idea is to track them down and get it back.

Renegade told *FORMAT* that the disk should be ready by the time you read this. It'll cost you £14.99, but bear in mind that you need the original *Cadaver* game disk as well.



■ *Cadaver's* hardly showing its age, but the Bitmaps have got a brand new add-on disk ready for release soon

hand-scanner with *Repro Studio* software at a cost of £269. The scanner operates at either 100, 200, 300 or 400 dpi, with 32 greyscales. Alternatively, they offer the Scanman 256 for £399. This operates at the same dpi resolutions but with 256 greyscales.

For DTP users, 90 *Calamus* fonts have been created for the company by Cherry Fonts. These will be bundled together with a font editor, enabling editing and creation of font sets for a price of £995. Alternatively, individual fonts can be purchased at £19.95 each.

System Solutions live at Unit 19, Sumner Workshops, Sumner Road, London, SE15 6LA, ☎ 071 252 7775.

■ Watch for reviews of these new packages in *STF* soon

WHISPERS

Snippets from the *ST* universe

■ Our exclusive MIDI song by Neil Palmer on last issue's Cover Disk has created a considerable amount of interest. The most intriguing development is the anonymous submission of a remix. A tape was sent to us with only a few snippets of information. The mystery sender says that the remix was produced on a £3,000 system and that he/she would be interested in hearing our comments. The remix itself is excellent, with some nice samples such as a psycho-like pizzicato violin sound. Is this mystery person an established pop-star? The only clue we have is the second track put on the tape, an excellent soul song with superb female vocals. Who are you?

■ Shortly before *Midwinter 2* hits the streets, Peter Jones, managing director at Microprose, has jumped ship to become managing director of Sierra On-line, the graphic adventure software house. Peter's input into the company should mean we start seeing a far more aggressive stance from Sierra.

■ Palace Software – responsible for such excellent games as *Barbarian*, *Cauldron*, *3D Tennis* and *Dragons Breath*, as well as the *Shoot-'em-up Construction Kit* – have been sold by their parent company, the Palace film and video organisation. Paris-based software house Titus bought Palace Software, which will remain at its London base. The buy-out won't affect the release of up-coming Palace games such as *Demoniak* and *Metal Mutant*.

■ Zone distribution, who market the *Band-in-a-box* range of MIDI software, have let it be known that they're ready to take on the big boys. The company have some sexy new packages lined up for release, which will put them in direct competition with C-Lab, Steinberg et al.

■ At a press conference recently, *ST FORMAT* Technical Ed Neil Jackson was approached by a presenter from MTV. Rather than asking Neil to get out of the line of his camera, said presenter asked if Neil could recommend a good platform game for his ST 'cos his girlfriend was hooked on the machine. Neil's choice: *Rainbow Islands*. Just proves, all the best people use the ST.

■ Speaking of which: latest big name ST owners are Madonna, New Kids on the Block (who?), Peter Gabriel, Debbie Gibson, Dire Straits, Whitesnake, Van Halen and Fleetwood Mac. *FORMAT* also recently found out that the ST was used in the sound production of such films as *Honey I Shrunk the Kids*, *Born on the Fourth of July* and *The Fabulous Baker Boys*. Remember: no ST, no comment!

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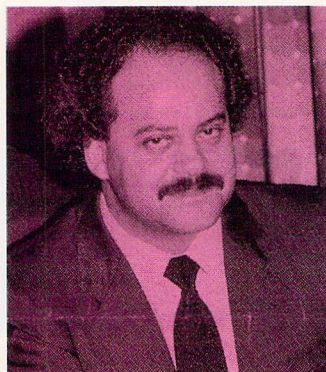
Gulf War blamed for poor sales

Atari USA: sales crash, profits soar

by Andrew Hutchinson

The American arm of Atari has posted its fourth quarter sales results. They are 11% down on the same quarter last year, while sales for the full year 1990 were down 3%. However, net income has vastly improved, up \$10.9 million against the year ending 1989.

The company are pointing the finger of blame at the Gulf war. Sam Tramiel, president of Atari, said, "Although sales in the fourth quarter were understandably disappointing, the company continues to strengthen its balance sheet. The Atari STE and TT/030 computer line, based on Motorola's 68000 and 68030 micro-processors, still remain the mainstay of our business, and we are taking measures to ensure its continued growth and success. The Mega STE, which was introduced in December 1990, was well received."



■ **Sam Tramiel, boss of Atari:** understandably disappointed about the sales, but optimistic

Get your backup

A new hard drive backup utility has been announced in the States. The *Good Backup Utility (GBU)* should prove useful to anyone who's ever lost data in a hard drive crash.

It uses an incremental save feature, which means that after an initial long dump to disk, subsequent saves update only those files which have been modified. As a result, though initially it takes a



■ **Never again need you suffer the annoyance of massive or total hardware failure. Use the Good Backup Utility and you can diss your drive**

while to build up an archive, later saves are quick and painless.

The program is fully interruptible – you can hit the Spacebar to stop it, and return to saving later. It then remembers where it got to and can carry on from that point.

GBU works with all versions of TOS and on all versions of the ST. It costs \$29.95 (about £15) and is available from "The Computer Bug" in Hadley, MA, USA, ☎ 0101 412 584 7722.

The file fiddler

Maxifile 3.1 is a file launcher which totally removes the need for the desktop GEM environment. The program runs as either an Accessory or a stand-alone program and has literally hundreds of useful file change, move and edit functions.

Files can be moved, copied, deleted, renamed, touched, locked, unlocked, hidden, shown, cleared or set to archive. The program uses "intelligent" copying routines to duplicate a source disk. You can create or rename folders, print directories and attach comments to files or folders.

80 filenames can be shown at once, complete with size, time and date, and a plethora of printing functions enable files to be printed and queued flexibly. Hidden files can be shown, and file attributes can be retained.

The program has its own icon for all main screen functions and keyboard shortcut commands. A

recoverable delete facility means you need never lose a file again, and a powerful search function enables you to search on any file attribute.

There are many more commands than those mentioned here. *Maxifile 3.1* is available from Codehead Software, PO Box 74090, Los Angeles, CA 90004, USA, ☎ 0101 213 386 5735.

First Cal-aid

Calamus might be a professional program, but finding your way around its mind-boggling array of icons takes a lot of getting used to. Now a new program from the

States called *CalAssistant* provides in-program help on *Calamus*. It sits in memory as an Accessory and uses text, icons and pictures to explain each command, adds hints and tips on using commands and also refers you to the appropriate page in the *Calamus* manual.

Spar Systems, producers of *CalAssistant*, say it needs just 90K, but like *Calamus* runs only in mono. If you want to get a decent turn of speed out of it, you want to use it with a hard drive. It's available for \$34.95 (about £16) from Spar Systems, 381 Autumn Avenue, Brooklyn, New York, 11208, USA, ☎ 0101 718 235 3169. **stf**



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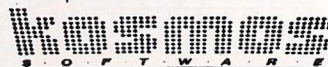
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ST Format (August '90)

87% ★

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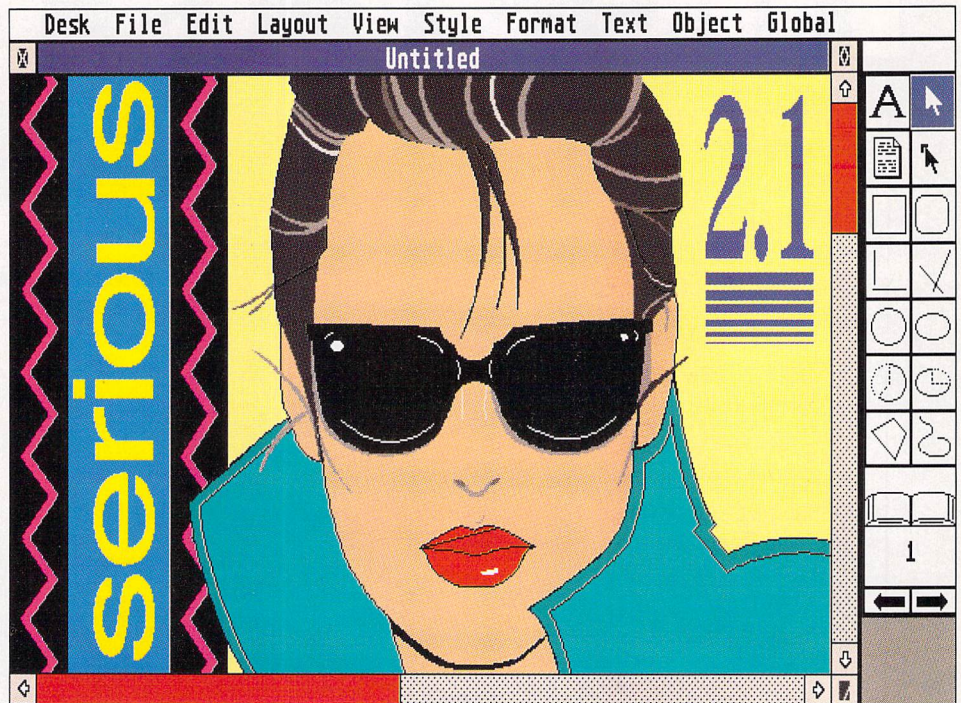
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Actual PageStream 2.1 screen shot. PageStream is ST/STE/TT compatible.

Have you ever been envious of all the neat DTP programs for the Mac? They have all those great PostScript fonts, multitudes of clip art and with Adobe Type Manager they don't have screen-jaggies. "Sure, we didn't have to mortgage the house to buy a computer, but it would be nice to have all those fonts."

SAY NO TO MAC ENVY

At Soft-Logik, we have a cure for Mac envy. We call it PageStream 2.1. Do you want PostScript fonts? PageStream lets you use any PC format PostScript font. Plus, PageStream can print PostScript fonts on your dot matrix, inkjet, HP or Atari laser printer!

SAY YES TO HINTED COMPUGRAPHIC FONTS

There are now two types of Compugraphic fonts for the Atari: unhinted, non-standard format fonts and hinted PC standard Intellifonts. Guess which we chose? PageStream 2 has the latest Compugraphic Intellifont Bullet technology. These typefaces are hinted so that they look great on all printers, even at small sizes. Of course we give you ten fonts from the Times, Triumvirate and Garamond families to get you started..

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Because Adobe Type Manager is not likely to be released for the Atari any time soon, we've built font scaling technology into PageStream 2.1. When you select Palatino Italic 72, that's what you will see on the screen, even if you rotate it or bleed it off the page. PageStream scales all Compugraphic, PostScript and Soft-Logik outline fonts.

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The ST is just the

The Atari ST is the perfect introduction to the world of computing. The power of the ST allows you to run "serious" applications as well as playing games, and the ST system is flexible enough to allow you to expand as you develop your interests and expertise in different applications.

One of the real advantages that the Atari ST has to offer is the sheer range and depth of software support. From word processors, spreadsheets and databases through to professional DTP and CAD systems the ST user is spoilt for choice. In MIDI applications the Atari ST has been the choice of professional recording studios and the software support for ST MIDI is awesome.

If you thought that computers were all about playing games you've been missing out on the real potential that you and your computer have. To find out more about either the Atari ST or peripherals for any applications simply fill in the coupon and send it to Atari at the address below.



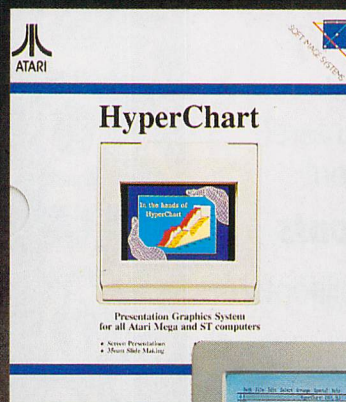
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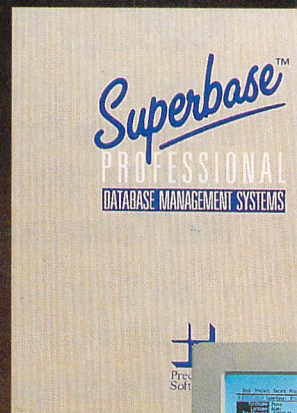
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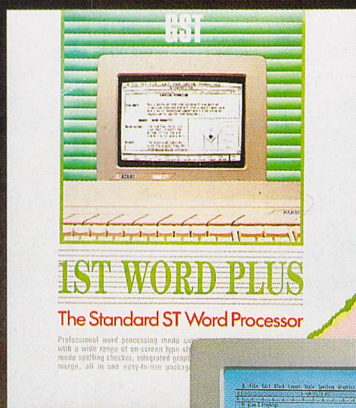


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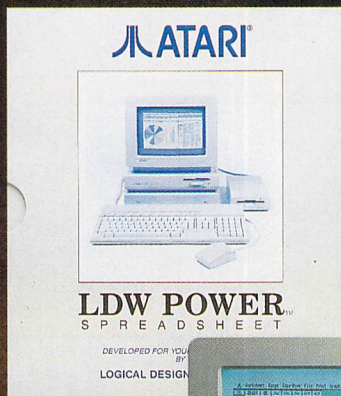
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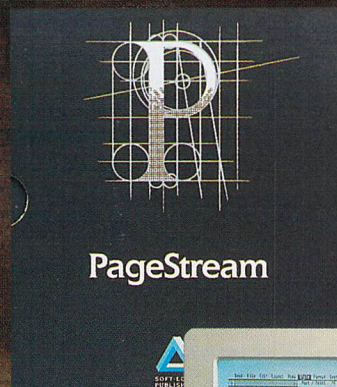
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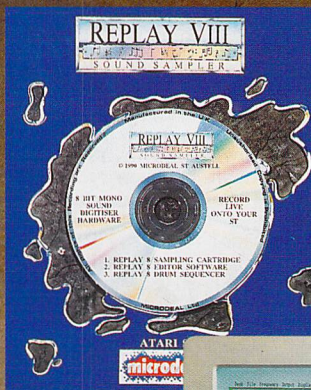
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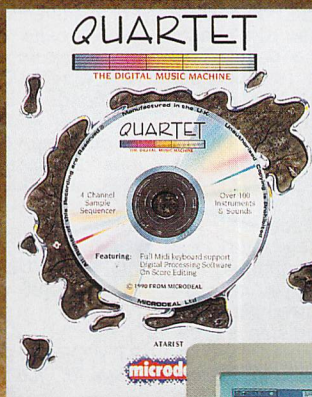
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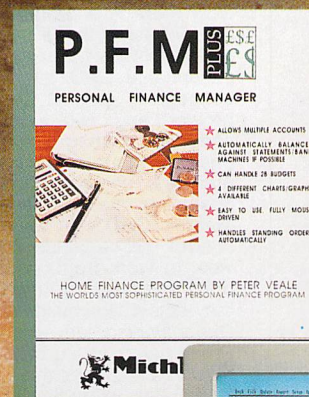
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9



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available for the ST. Lotus 1-2-3-compatible, fast and easy to use, but very powerful.

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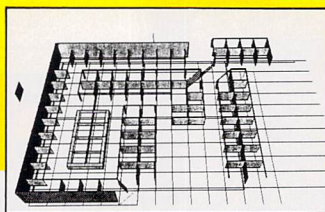
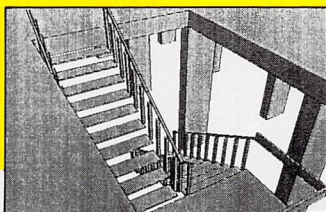
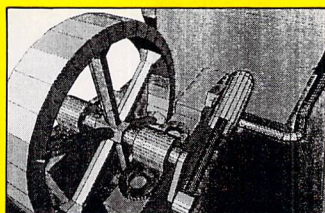
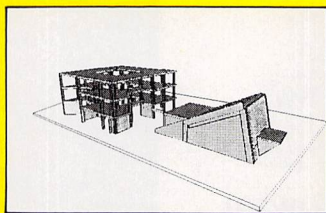
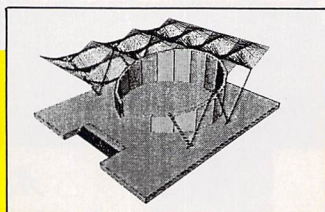
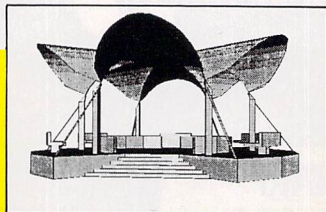
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ST WORLD (October 89) said, "*Master CAD is a powerful, full featured CAD Program*"

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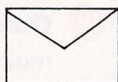
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IN PRODUCTION

■ Empire have a truckload of stuff lined up for the rest of the year. First off, look out for *Volvie* round the end of the month. This conversion of the Taito shoot-'em-up coin-op features (it says here) massive sprites such as crabs, insects, snakes and an eyeball-spewing head. Quite. Pencilled in for later in the year is *Eye of the Storm*, a space game that includes 120 different types of objects and Gouraud shading, which apparently means each individual polygon has graded shading. Don't hold your breath, though – it's not due until September. *Cyber Space*, due in October, is an RPG set in 2090, where "Mega-corporation repression collides with scrawl street warfare" (cool!). It's said to have detailed and extensive Cybernetic rules. If anyone knows exactly what that means, please write in and tell us...

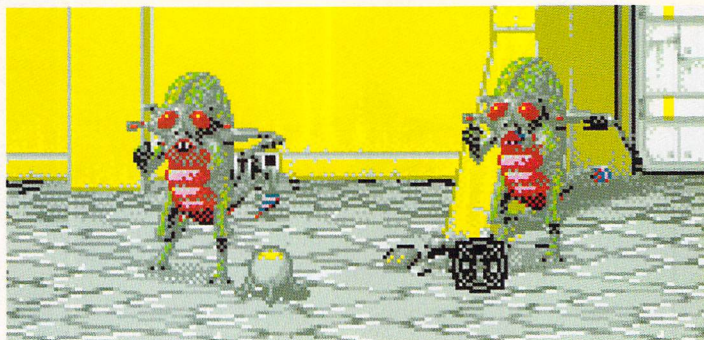
■ Another game which has been imminent for a while is *Cyber Assault* from Arc. It features Trax, the humanoid built from 3D polygons, displaying over 70 faces and animated at 15 frames a second. Although the game is at a stage where release is possible, Arc have decided to pep it by adding various humorous routines – including the way Trax falls over when he runs into a wall. Here's the bad news: it won't now be released until the autumn – when you can also expect to see more Turcan war games, *Dreadnoughts* and *Blitz*. There's a wargame construction kit in the pipeline, too...

■ An update on *Duster*, the management/3D action game from Realtime Software, programmers of *Carrier Command* and *Battle Command*. With people leaving the project here and there, there's been some confusion over who's actually programming the game recently – it was first previewed yonks ago. The result is that it too now isn't due out (from Imageworks) until autumn.

■ Remember *Battle Chess*, the chess game where the pieces had fights? No? Then you're not likely to be interested in *Battle Chess 2 – Chinese Chess* from Electronic Arts. Already out on some formats, this looks remarkably similar to its predecessor (except for the Oriental flavour), but features many more pieces and animation sequences to goggle at. But guess what? It won't be out on the ST until the autumn. What is it about autumn that produces such a rash of games? Could it be that Christmas isn't far behind? More immediately, EA are releasing the first in a series of data disks for *Powermonger*, boasting not only completely new graphics but also new strategies and different gameplay, extending the appeal of the game for all those hardened game-players who have completed it four times over by now.

Previews

We couldn't help ourselves, officer! ST FORMAT just has to bring you the latest, hottest info on up-'n'-coming games...



■ "Gosh, just look at the state of this *Dominion*! I'd have tidied up if I'd known you were coming. Have you met the twins? Derek's been slightly ill lately so he's a bit off-colour. Cup of tea anyone?" etc etc

Pandora Software aren't exactly the most prolific software house you could think of, but when they do release a game they go in for it in a big way. Witness *Debut*, the extremely odd and mostly unplayable planet simulator. Now a new game is on the way by the name of *Dominion* (Dawn of New Eden).

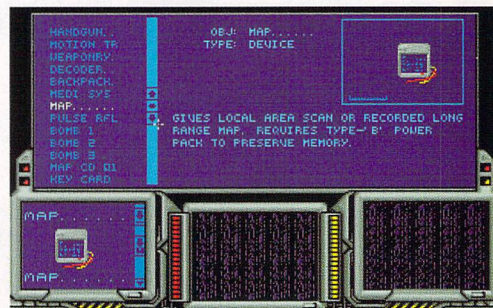
The plotline is typically convoluted. There is a race of beings known as the Chitona who exist as pure thought in the Zero'th Dimension. They oversee the development of all life throughout every universe and dimension. They have built a probe called Mentor which circumnavigates our galaxy every 35 million years. The probe's purpose is to visit inhabited star systems and test the planets' dominant species. If they prove to be a threat to other life they are wiped out. If not, Mentor gives them the ability to communicate with other galaxies.

With us so far? Good. Mentor has visited Earth twice before – early on in the reign of the dinosaurs and again much later. On its first visit,

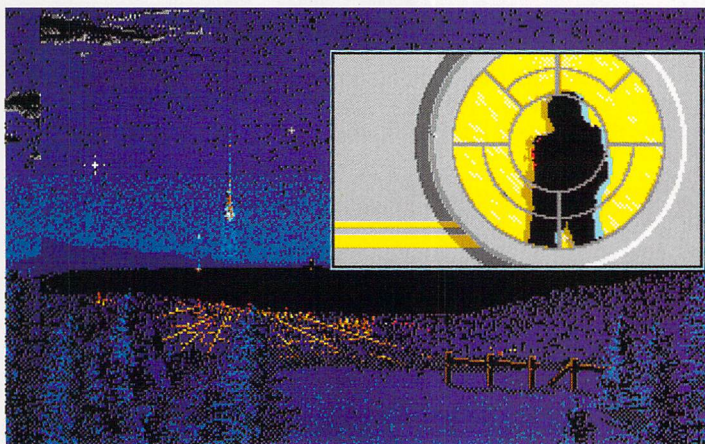
Pandora, Mentor and the beings from Dimension Zero

it saw that the dinosaurs were becoming a threat to evolving Man and destroyed them. Now, on its third visit, Man is the dominant species, and we too are a threat. So (and here's the crux) we must prove ourselves worthy of continued life.

You take the role of a human test subject, chosen to prove Man's intelligence and ability to survive. The



■ "Can't get those Type-B Powerpacks anywhere? Come round the back – my brother's friend's sister knows this bloke who knows..."



■ *Dominion* isn't just a shoot-'em-up; it's a sort of RPG. You get the chance to play the part of a Peeping Tom – see that telescopic view? No, hang on – isn't it some sort of James Bond pastiche? No, wait...

game may be played in two ways: as a straight shoot-'em-up (which, although it's massive fun, means you won't be able to complete the task) or as a more serious game. You're continually scored for your actions, but you aren't always aware of it. Be good and you receive coded hints and tips that are vital to complete certain sections. This means you can completely finish it only if you've played the game properly.

Work on *Dominion* began in September 1989, so it certainly has the potential to be a complex and involving game. It is to be released on three double-sided disks with heavily-compressed data (and a chrome cassette with music from the game). Single-sided drive owners (all three of you) needn't fret: the disks are to be compatible with single-sided drives. Read the full review here next month.

After an Epic wait



■ "The proposed spaceport should offer extensive docking facilities, large luxury hotels and a bloody great supernova every half hour. Reduced rates are available for those of a nervous disposition"

Ocean have had a few games in the pipeline for what seems like several years now. One of these is *Epic*, originally due for release last November but now hoped for in the sort-of-near future (sun spots permitting).

Unusually for Ocean, *Epic* isn't a licence. It's a "space extravaganza"

set in the future. Because our sun is about to become a supernova, everyone on Earth is evacuating to the distant planet of Ulysses 7 in the Rexxon Empire. Unfortunately the stupid old Empire get the wrong end of the stick and think Earth is attacking them with a war fleet. Cue the



■ "I tell you, this were all fields before *Epic* came along, as far as the eye could see. We had to make do with a dinner plate and a shoe-lace in them days! You youngsters don't know you're born, etc etc."

fireworks. Luckily there's a new one-man starfighter with awesome power and destruction on your side and it goes by the name of *Epic*.

Epic is from the same development team that brought us *F-29 Retaliator*, features music by Dave Whittaker and promises to have

spectacular graphics that correspond to *Star Wars* themes. What *Star Wars* has to do with anything is anybody's guess. Remember, simply because a game has taken ages to get together doesn't mean it's going to be any good. Your best bet is to watch this space for the full review.

Go directly to jail

Alcatraz is rotten to the core, contaminated by the foul deeds of the vile drug baron, Miguel Tardiez. As a crack commando your task is to penetrate the island and capture him. Are you the right man for the job?

Coo, exciting, isn't it? (Don't answer.) It's the plot of Infogrames' newbie, which goes by the strikingly original name of *Alcatraz*. It's a pot-pourri of common game styles, each boasting striking visuals and an array of weaponry. There's a horizontally-scrolling section set outside the jail, for instance, which sounds suspiciously like a shoot-'em-up, and this is followed by a sequence where you must climb the cell walls to gain entry. Get in and you're plunged into a maze of 3D rooms in *Alcatraz* itself. Once

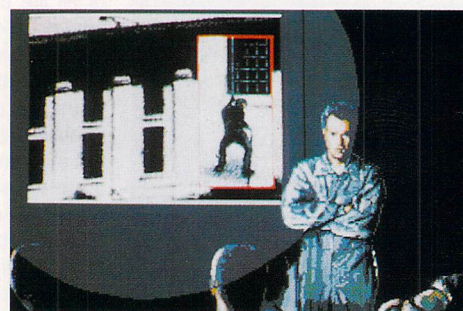
you complete the mission, you need to cross the island and escape via the rescue helicopter.

There are also five missions to complete. In mission one, for instance, you must destroy a drug in the Barracks and in mission two you must neutralise the chemist in the Model Industries building. In mission five you have to capture Tardiez himself.

There are some innovative features – two-player simultaneous play, graphics based on the real Alcatraz Island and sound effects gameplay – meaning more guards appear to hassle you depending on

how much noise you make during your missions.

Infogrames have a bit of a reputation for producing high quality, original games, so there's



■ "Now listen, chaps. Timing is crucial here. As soon as they leave the house, we storm the building, enter through the window and leave a note reading 'British Gas: you were out when we called' on the table"

certainly hope for *Alcatraz*. But take nobody's word for it – except ours, naturally. Watch for the comprehensive *ST FORMAT* review soon.



■ "Shadow Dancer is owned by Mr Nin Ja. They have won the National Tear The Throat From The Crazy Terrorist Championship for three years running..."

One ninja and his rottweiler

It is, as they say, a dog's life – providing your name is Chip and you've got four legs, that is (three, if you're the Ed's dog). That phrase is soon going to have a whole new meaning with the release of *Shadow Dancer* from US Gold. This Sega coin-op conversion casts you as a young Ninja who battles with his faithful pet dog (stop sniggering) in a bid to foil the

terrorists who are planting time bombs around the city. Your job is to collect all the bombs – preferably before they explode – and then go after the terrorists themselves.

Shadow Dancer, due even as your bloodshot eyes scan this very page, consists of four rounds with a total of 15 stages. Apparently it features innovative attack patterns with

many impressive scenes and offers you a sequence of confrontations never before seen in a conventional game. Excited? Thrilled? Can't wait to get out there and sell your grandmother to buy it? Careful – it may just turn out to be yet another boring beat-'em-up. Play safe and check out the *FORMAT* review – coming soon – before parting with your lolly. **stf**



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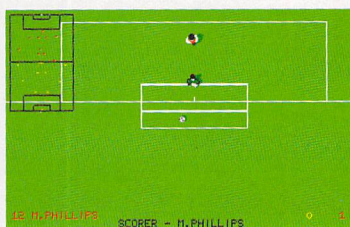
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ST charts

From FORMAT Gold to FORMAT Dustbin, all the stuff that's making it (and not making it) in the charts

ST CHART CHAT

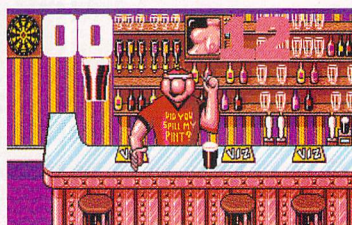
The *Kick Off 2* add-on *Final Whistle* wastes no time and jumps straight in at the top spot, bolstering *Kick Off 2*'s chances of becoming a "bat out of hell" in the ST charts. Could this have something to do with the FA Cup being just around the corner? I think we should be told.



■ Anco might have just blown the *Final Whistle* – straight in at the number one spot – but there's no stopping the fabulous *Kick Off 2*

Lemmings drops straight in at number four but according to Psygnosis' PR man Nick Wilde has been withdrawn because of a bug. The comic *Viz* proves its popularity by boosting the ST game to the number five position – Fat Slags have appeal after all.

Once again, budget games are actually selling more copies than the full-price type. The bottom end of the chart is marked out by seven re-entries. *MidWinter*'s renaissance is a pleasant surprise, although the imminent arrival of *MidWinter 2* must have had some positive effect. *Gunship* is another deserving re-entry. There still seems to be little 1991 quality material in the charts though.



■ Crude, rude and printed on bog-roll, the brash *Viz* proves it's got its fingers firmly on the pulse of the nation at number five

Anco rule the full price chart at the moment, while Code Masters earn their groats via the budget chart. Microprose should be very pleased with the consistently good performance of *F19* and *M1 Tank Platoon*. They're highly likely to be at the top of the charts next month too with *Flames of Freedom*.

CHARTBUSTERS

Yes, we have a winner! *John Man* of Romford correctly predicted two of the top three games in this month's chart. A copy of Domark's absolutely steely *MiG-29 Fulcrum*, a deserving *FORMAT Gold*, is on its way to you. Congratulations to John and better luck next time to the rest of you.

If you think you can successfully predict next month's top three games (or if no-one gets three right, come close enough to go into the hat), then take a postcard and write down your predictions, the month you're predicting for, your name and address and the game from the top ten you'd like to win. Then send the card to *Chartbusters*, ST *FORMAT*, 29 Monmouth Street, Bath BA1 2AP. This month's pointers: *Cybercon 3*, *Back to The Future 3*, *The Killing Game Show*, *Gods*, *The Killing Cloud* and *Predator 2*.

■ Main Charts: STF refers to issue and score of review in ST *FORMAT*. These full price and budget ST charts are compiled and supplied by Gallup. © 1991 European Leisure Software Publishers Association Ltd

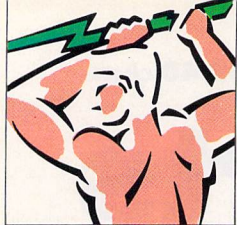
ST BUDGET TOP TEN

1. ▲ **Fantasy World Dizzy** Code Masters
2. NE **Little Puff** CDS
3. NE **Steve Davis World Snooker** CDS
4. NE **Operation Wolf** Hit Squad
5. <> **Treasure Island Dizzy** Code Masters
6. NE **Continental Circus** Mastertronic
7. ▼ **Super Grand Prix** Code Masters
8. ▼ **Super Scramble Simulator** Kixx
9. ▼ **Moonwalk** Kixx
10. NE **Yogi – Greed Monster** Hi-tech Software

CHART KEY

- RE Re-Entry
NE New Entry
<> Non Mover
▲ Up
▼ Down

1	NE	FINAL WHISTLE	Anco	£12.99	STF 23: 70%
2	<>	F19 STEALTH FIGHTER	Microprose	£29.99	STF 12: 96%
3	▼	SPEEDBALL 2	Mirrorsoft	£24.99	STF 18: 88%
4	NE	LEMMINGS	Psygnosis	£25.95	(See Chart Chat)
5	NE	VIZ	Virgin	£24.99	STF 22: 74%
6	▲	FISTS OF FURY	Virgin	£29.99	STF 23: 65%
7	▲	KICK OFF 2	Anco	£24.99	STF 14: 92%
8	NE	POWER UP	Ocean	£29.99	STF 23: 82%
9	NE	SWIV	Storm	£24.99	STF 22: 78%
10	▼	GOLDEN AXE	Virgin	£24.99	STF 18: 82%
11	▼	POWERMONGER	Electronic Arts	£29.99	STF 19: 93%
12	▼	TEENAGE MUTANT HERO TURTLES	Mirrorsoft	£24.99	STF 19: 38%
13	▼	LOTUS TURBO CHALLENGE	Gremlin Graphics	£24.99	STF 18: 86%
14	NE	NIGHT SHIFT	US Gold	£24.99	STF 20: 86%
15	▲	B.A.T.	UBI Soft	£34.99	STF 17: 92%
16	▼	POWER PACK	Beau Jolly	£24.99	STF 17: 88%
17	▼	ROBOCOP 2	Ocean	£24.99	STF 19: 84%
18	▼	MiG-29 FULCRUM	Domark	£34.99	STF 20: 92%
19	NE	ELVIRA	Accolade	£29.99	STF 22: 80%
20	▲	SUPREMACY	Virgin	£29.99	STF 18: 90%
21	▲	M1 Tank Platoon	Microprose		
22	NE	'Nam 1965-1975	Domark		
23	▼	Hollywood Collection	Ocean		
24	NE	UMS 2	Rainbird		
25	RE	Turrican	Rainbow Arts		
26	<>	Multi Player Soccer Manager	D&H Games		
27	▼	Toyota Celica Rally	Gremlin Graphics		
28	▲	Battle Command	Ocean		
29	RE	Curse of the Azure Bonds	US Gold		
30	NE	Test Drive 2	Accolade		
31	NE	Wrath of the Demon	Readysoft		
32	NE	Monster Pack – Volume 1	Psygnosis		
33	RE	MidWinter	Rainbird		
34	RE	Cricket Captain	D&H Games		
35	▼	Team Suzuki	Gremlin Graphics		
36	RE	Captive	Mindscape		
37	RE	Gunship	Microprose		
38	RE	World Championship Soccer	Elite		
39	RE	Castle Master	Domark		
40	RE	Team Yankee	Empire		



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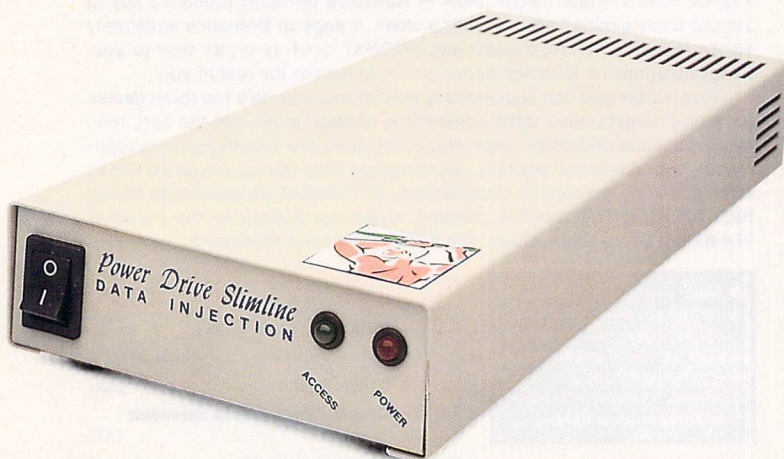
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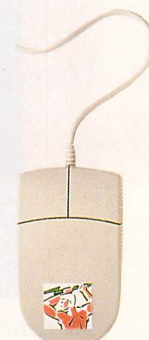
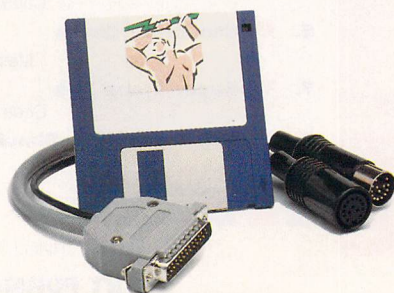
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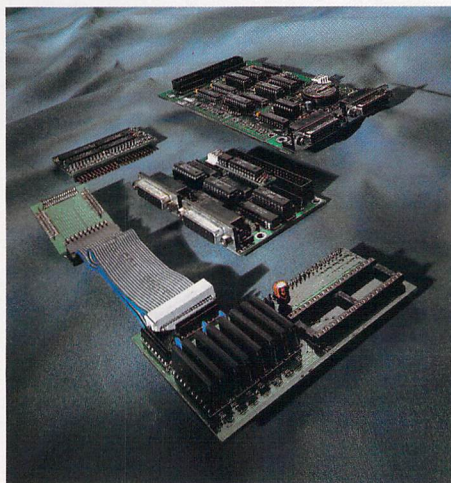
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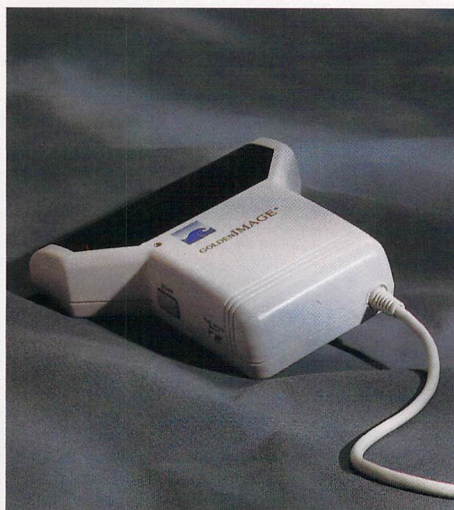
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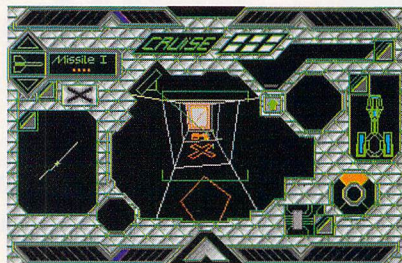
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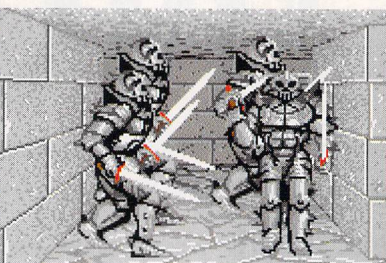
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Wire-frame graphics in *Magic Fly* mean a faster display-rate because there is less shading or colouring for the ST to work out. Hidden lines are still removed, to help you make sense of the shapes, and the game has an option for an enhanced (but slightly slower) filled-object view



The clever programming in *Dungeon Master* gives an illusion of 3D, but it is just that – an illusion. The walls, ceilings and floors are just perspective drawings pre-stored as 2D bitmaps, which are copied to the screen according to your position in the maze



Creating objects can be a long-winded process and take more time than the drawing of conventional 2D bitmaps. This mug is a simple representation of our Editor's teacup but it still took about an hour to be built up and displayed



F-19 Stealth Fighter is a true 3D game. You can view all objects from any position, providing you can get to that position in your plane. Carriers, other aircraft and terrain features are all stored as 3D object matrices. These are then rotated, scaled and displayed using 3D projection techniques

Three dimensional vector graphics have been around for a long time, but they're only just beginning to be fully exploited on advanced machines like the ST. Even so, there's still a vast gap between the "real world" and the blocky, unnaturally-coloured shapes we are used to seeing in flight simulations. Why? What's stopping programmers from giving us in *all* games the same level of detail you'd expect in something like *Xenon 2* or *Prince of Persia*? Sadly, quite a lot, as closer inspection shows.

There's a fundamental difference between 3D games like *Castle Master* and standard "bitmap" games like *Dungeon Master*. Both games have a two-dimensional component which consists of stored pictures, probably in the same form as a *Degas* picture. These are overlaid on the screen and used to represent indicators, cockpit panels, title screens and other non-moving displays which constantly remain in view.

The difference, however, lies in the display "behind" the panels. These are generated in totally different ways. *Dungeon Master* still uses

2D sprites and bitmapped images to portray the walls, creatures and objects which form the gameworld. *Castle Master* on the other hand attempts to project a realistic view, based at any moment on your position, the tilt of your head and the shape of the gameworld.

This difference is easily identifiable. In *Dungeon Master* and other flat games, you are limited to a predetermined field of view – it's

“There’s a fundamental difference between 3D games like Castle Master and standard ‘bitmap’ games like Dungeon Master”

impossible to look at things from any angle other than the ones programmed into the game. When was the last time you saw the ceiling directly above you in *Dungeon Master*, or checked out the back of a building in *Super Monaco GP*, for example? It just can't be done. The bit-

mapped images for these views don't exist, and the ability to get yourself into these position is "locked out."

However, in *Castle Master*, you can look in all directions from virtually any angle or distance. The program unfailingly works out what you see, in terms of objects, buildings and combatants, and displays them accordingly.

HOW IT'S DONE

The 3D illusion relies on some fairly simple (but often hated) mathematics – trigonometry and matrix algebra. While these may be the bane of most students' lives, they happen to be crucial to the problem of representing a 3D world. You may wonder whether Pythagoras' theorem ever has a real use, but 3D vector graphics depend more heavily on this than on anything else!

The basic part of the 3D system involves the use of three-dimensional coordinates. These are similar to the normal X and Y coordinates you find on graphs and maps, except that here a third Z coordinate is added. Imagine a map

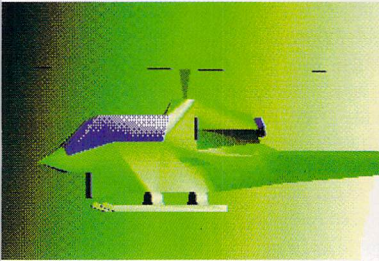
3D graphics – maths or myth?

We've all heard the buzzwords – solid 3D, vector graphics, wire-frames – but what does it all mean? Neil Jackson examines 3D from all sides

TOMORROW'S TECHNOLOGY TODAY

■ The most familiar mainstream use for 3D graphics (apart from games) is for company logos. Text is stretched out into 3D and then tumbled, twisted, rotated and the like, to make a company's logo look exciting, dynamic and polished. An ST reproduced this series of *ST FORMAT* logos using a predefined *Cyber Studio* object, rotated through 360 degrees and rendered in a top secret, ultra-amazing 3D package for the ST. We'll tell you more about it right here in the pages of *ST FORMAT* when we can!





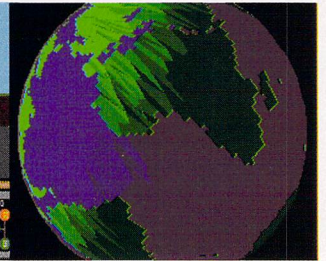
This home-made Cobra Gunship was created by ST's Tech Ed, Neil Jackson, using CyberStudio and CyberSculpt. It's been rendered with RezRender (which is on this month's Cover Disk), using Gouraud shading



This version was rendered using Phong shading and a different type of dithered background. The light is mainly diffuse (not from a single source) with a few spot highlights added using the Specular (single light-source) control



Depth-sorting, or Hidden Line Removal, is crucial to the illusion of 3D. *Hard Drivin'* suffered (as you can see here) from a few inaccuracies in this department. The blob to the lower left of the 60 sign is a truck coming up the hill from the other direction. From this viewpoint you shouldn't be able to see it!



Circular objects, like this globe, are made up of many tiny flat faces. The storage space required is huge, and the globe takes a long time to manipulate. This one uses a texture-map – a simple *Degas* image – wrapped around the globe to show the continents

which shows a house at coordinates X and Y. Well, its height is represented by Z.

The map itself represents the boundary of our 3D world. You could not travel off the edge, because there is no coordinate system beyond. It's entirely up to the programmer whether you simply bounce back "onto the map" or carry on in a world with no landscape!

In practice, *all* corners of an object, be it a building, car or matchbox, are stored in a vast matrix or array, so that edges and faces can be

edge. This array is also used to create the final image at the stage of projection.

PROJECTING A CLEAR IMAGE

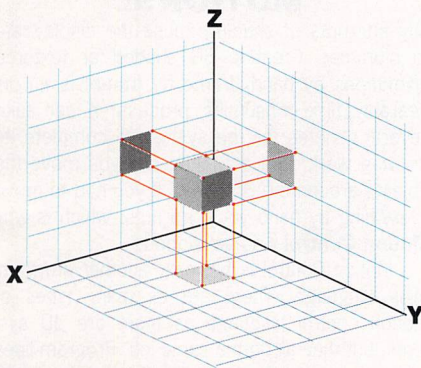
The 3D system calculates the view to be displayed using the data stored in these two arrays. It does this by calculating the position of imaginary lines extending from each corner point of the objects in the 3D world through to the position of your eyes. Lying somewhere along these lines, and at right angles to them, is your ST's display screen. This is accounted for by the 3D system and acts as your window into the 3D world.

A quick calculation works out which objects are completely outside the frame of the window (from your point of view) and they are removed

easy to spot – *Hard Drivin'* suffered terribly with its outside views. You'd find cars driving through solid bridge sections, for instance.

The next step is for the world to be "projected" onto the screen. Because the screen itself is a giant array, this process is rather like the way a cartographer can project the Earth's globe onto a flat map. In fact the calculation is slightly less complex because the cartographer is concerned with detail on the back face of the globe, but the 3D world projection dumps all these during the Hidden Line Removal phase.

The projection algorithm can include several features during its operation. A very simple (and hence faster) 3D system may project only the edges and lines which make up the objects. *Magic Fly* from Electronic Arts uses this kind of display – it shows no surface details or object colours, just a wire-frame indication of the



■ **At the heart of a 3D system lie sets of coordinates – simple distances measured from each corner of the object to the central part of the 3D world. This defines the object in space and gives it its own unique template so that the ST is then able to move the object around**

constructed later. A matchbox has eight corners so the array for storing this information must contain eight elements.

This gives you only a set of points. A second array stores a list of *connected* points so that only the edges which connect point-to-point are given an entry. There are 12 such edges on a matchbox, and each entry consists of the two corner points at either end of the

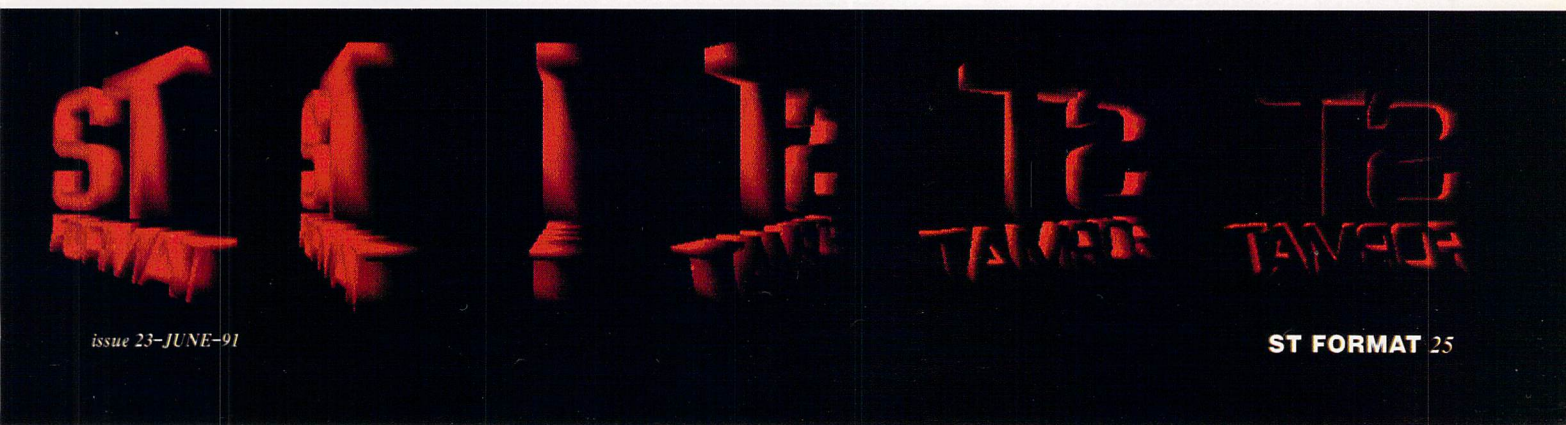
"It's as if the ST's screen is a sheet of glass held in front of an imaginary world"

from the calculations for that display-frame. The remaining objects, starting with the ones furthest away from you, are rotated and scaled in size depending on your position and height in the imaginary 3D world. By varying the distance between your "imaginary head" and the display screen, you can create strange and bewildering perspective effects. Alter the perspective and you can, for example, make a tiny matchbox into a giant skyscraper.

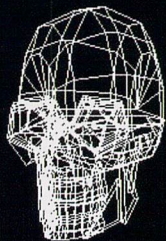
After repositioning everything, the system determines which corners of each object can't be seen and which edges and faces are obscured. This process is known as Hidden Line Removal, and a good HLR algorithm usually goes unnoticed by the viewer. A bad one, however, is



■ **Objects can appear flat or be made to look huge, depending on the vanishing point used and the angles between lines**

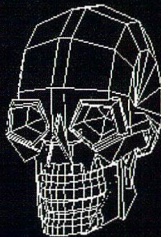


IT'S A SHADY BUSINESS



■ Simple wire-frame images may be quick to manipulate and display but they're very difficult to decipher if they're complicated. All the unnecessary detail messes up the way you read the image. Wire-frame displays are used just to test the approximate position of an object before rendering a full-shaded version

■ With the hidden lines removed, our skull looks a lot clearer. You may be able to tell what it is, but it's still a bit confusing – the detail around the eyes, for instance, could be either a depression or a protrusion. Even so, there are enough reference details to help your brain make the right choices



■ Flat shading clarifies things even further. You can tell that the eyes are holes because of the way the light is reflected off the inside of the orbs. However, you start to notice the very blocky feel of the whole skull. In reality, no-one's head has straight edges

■ Gouraud shading helps to smooth out the skull a bit. From the position of the light source, it calculates the light level at each corner, then blends the light from corner to corner. Edges close to each other in terms of their angles become blurred by the shading algorithm, while right-angled faces still look well-defined



■ Phong shading is very similar to Gouraud shading – unless you examine the object at great magnification you probably can't spot the differences. However, when you animate a 3D object, Phong shading is more consistent. Unlike Gouraud shading, this shading pattern doesn't move unnaturally around the object

➤ object itself. Microprose's *F-19 Stealth Fighter*, on the other hand, uses a shading system to show some detail on each object face. The object arrays are arranged face-by-face, along with the relevant colours for those faces.

This gives a better display, but significantly slows down the calculation speed and hence the display-rate. If a 3D system isn't up to it, the game slows down and leaves static gaps between frames. Electronic Arts' *Chuck Yeager's AFT* suffered from this a bit and broke the first law of animation. You must display frames at a faster rate than ten frames per second if you want to fool the eye.

PUT YOUR SHADES ON

With a few enhancements, it's possible to store more detailed information on not just the colour but the texture and shade of individual sides as well.

In its simplest form, this can be done by simply drawing bitmapped images with a standard art package and then re-mapping these pictures onto the surface of your 3D object. The end result is a huge array of hundreds of faces, roughly one face per area of continuous colour. The more complex the bitmapped image, the larger the array and therefore the longer it takes to manipulate around the 3D world.

You are unlikely to see much texture-mapped 3D in games, but you do see it every day – in TV advertising, company logos, and music video shows. With animation this complex, the 3D is usually created frame by frame,

like a cartoon. The 3D system draws each frame and repeatedly saves it to disk. Another program, often known as a player or animator, is used to replay the frames at the desired speed. However, the ability to interact with the 3D world is completely lost and you become merely a passenger on a 3D journey.

Shading is another complex maths process which you don't see in many games. It requires the 3D system to store data on the brightness and position of a light source. This requires trigonometry to determine which faces are illu-



■ Basic secondary school trigonometry is used to project a 3D world onto the ST's screen. It's as if the screen is a sheet of glass held in front of an imaginary world

minated and to what degree. Advanced methods even store data on the reflective properties of faces, so that you can represent transparent glass or highly-polished gold.

It's impossible to attain perfection on an ST, but it's still possible to create some stunning shaded images. STs can show up to eight levels of a colour on each face (16 on STEs), but with this amount of shading there is only enough space in the palette for two basic hues. Shading algorithms are constantly being developed but

there are four basic programming theories in common use at the moment.

■ **Flat Shading** allocates one shade per face and spends only a little time calculating the level of brightness given by the light source. This is most common in games and strictly speaking isn't a true shading algorithm.

■ **Gouraud Shading**, designed by H Gouraud, is a more complex algorithm which works out the light level at each corner of a face and then blends the light from corner to corner as the face is created. This can have some pleasant side effects too. Surfaces like spheres are generally stored as multi-sided balls, but Gouraud shading (unlike flat shading) can give them a smooth appearance.

■ **Phong Shading**, named after its Vietnamese inventor Bui-Tuong Phong, is even more complex and calculates the light level separately for each pixel on every face, rather than estimating the light levels from all the corners.

■ **Raytracing** is an extension of this. It involves calculating the path of each ray of light which passes through the display screen on its way to the "imaginary head" viewing the 3D world. The light continues on its path, bouncing around the 3D world, reflected by some surfaces and transmitted through others, depending on the objects' surface properties.

CONTROL THOSE MOTIONS!

Any attempts at shading cause the display-rate to plummet. Creating 3D shaded or textured animations by hand, frame by frame, is an unbearably time-consuming process. It can take several minutes for the system to complete its drawing work, and only then can you move the objects around the 3D world. If you had to move everything by hand you'd go nuts, which is why **Motion Control** was developed.

Motion Control is basically another programming language. There are as many types of motion control language as there are 3D systems, but they all do the same job. Program lines or mouse commands are interpreted by the 3D system and objects are moved accordingly. The viewpoint and light-levels may be altered before frames are created and saved automatically. You can often preview the animation using a wire-frame world (for speed), so that you can hone the movement before you commit your ST to the full-blown process.

BEST OF BOTH WORLDS

Now it's your turn to build a better world. On this month's Cover Disk (see page 38), you can find two 3D programs. The first, *3D Construction Kit*, is a demo of Domark's amazing 3D game-creator, and you can find more information about how to use it on page 30. The second program, *RezRender*, is a sophisticated add-on module for use with the *CyberStudio* range of 3D programs. It can handle Phong, Gouraud and flat shading, as well as some simplified raytracing and animation. All you need is a CAD 3D *CyberStudio* object file – one is included if you haven't got one. Make sure you have a look at the Cover Disk pages so you know what you're doing. Come on! What are you waiting for? Load 'em up and step into that third dimension! **stf**



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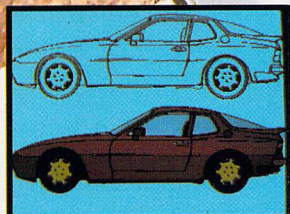
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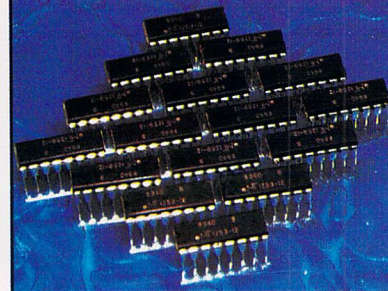


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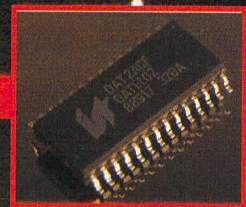
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TRAVEL THE WORLD OF 3D AND SEE THE SIGHTS

■ How to find your way around 3D Construction Kit's main view window

Menu selectors → FILE GENERAL AREA OBJECT

Object view controls
Use these to look straight at all six sides of the current object (one must be selected first)

Current location → X Y Z

Area information bar → AREA 01 POS: 0553, 0550, 2450 ROT: 000, 045, 000

Exclusive view
Hides everything except the current object

Highlight current object

Select object
Choose an object from the list or click on the object itself (if you can see it)

Try it!

Return to the start position in area 1

Camera type
(has no effect in the demo)

Movement speed
USER is what you'd end up with in your finished game
FINE is used for close-up work and is slower

Edit object shape
Select an object and use the **EDIT SUB-MENU** – see page 33

Delete object
Choose from the list or click on the object in the viewing window. Be careful – there's no retrieving it!

MOVEMENT PANEL

Aiming cross-hairs on/off
Spin 180 degrees

Turn left
Sidestep left

Forwards
Backwards

Turn right
Sidestep right

Get taller
Get shorter

Current view angle
(where you're looking and the tilt of your head)

Look down

Look up

Tilt your head right

Tilt your head left

Level view

Test your 3D world in a game situation (not fully operable in the demo)

Edit object attributes
Select an object and change its status in the gameworld

Your guide to Construction

Never play on a building site, they say. But this one's a safe sight, and easy too! Neil Jackson, the hod carrier's mate, shows you step-by-step how to be objective on the scaffolding

Imagine a huge world of Lego, where you can change the size and shape of the bricks. Just think of what you could build! Now imagine you can walk around it, or fly through it. Sounds fun? Not 'arf! But that's virtually what 3D Construction Kit is – except that you don't have to pack it all up in its box when you've finished.

The version on this issue's Cover Disk is a partly-working demo of Domark's exciting new release. (See page 38 for info on loading it up.) Some of the really complex, game-creating stuff has been disabled, but there's still a huge bundle of things for you to mess around with.

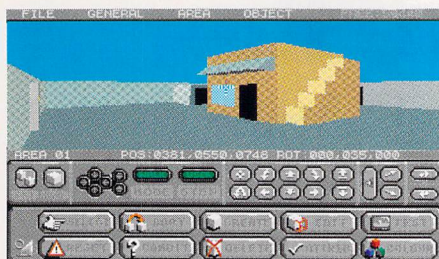
THE TOOLS OF THE TRADE

The Cover Disk demo comes complete with a small sample "world" consisting of two basic areas: a large outside courtyard and a changing room inside a building. The objects which make up these two areas can be pulled, stretched, pushed and flattened to your heart's content,

and with a bit of imagination you could turn the whole lot into something entirely different.

When you first load 3DCK, you find yourself at one side of a large courtyard, looking at a building. Use the diagram at the top of this page to locate the movement and head-turning icons, and then experiment with moving around this area until you know what's what. Click on the icons with the left button for normal speed, or the right button for a faster speed, with larger steps. If you get lost, just click on the "reset" icon to return to the original starting point. You can view the entire place from any angle, height or direction. Mastering movement is the first, vital step, so give it a thorough bashing!

When you've got it sussed, you can climb the steps right up to the top of the building and walk around on the roof. As you near the edges, look down and try moving off into thin air. You fall, with a resounding clunk. In a game, this could signify your death, or a fall in energy. In this demo, the game option is only partly working. You can test the world, with a dummy game



■ When you first load up **3D Construction Kit**, this is where you find yourself. You're standing in the corner of a large courtyard, with several things concealed within it. Wander anywhere you like. If you ever get lost, **RESET** takes you back here



■ The special door on one of the courtyard walls is designed to change if you shoot at it. Give it a good belt using the left mouse button, aiming directly at the door handle. The only way out of the courtyard, though, is to enter the building – or edit the walls!



■ Wandering around the side of the house, you find a set of steps you can climb. Look down and you get an overview of the 3D world. Try falling off to see what happens. Behind the house there are some odd blocks which can be shot at for effect



■ Entering the doorway in the building changes the current area into a changing room. There's a sink, a towel and a chair, but nothing else, yet. You can't create new objects in this demo, but you can change the shape of any existing items



■ Here, using the edit mode, the sink is bent and stretched into a bathtub – but it could just as easily have been a bidet, a bookcase or a banana! Even the walls can be altered as you like – but delete anything in this demo and it's gone for good!



■ Putting the taps in the correct place on the bath is a simple process, but you need to rotate some of the parts that make them up so that their invisible sides face the walls. Otherwise they can disappear when viewed from certain angles

3D Kit



display, but there is no game logic in place – you need the full package to create this.

THE DOORS OF PERCEPTION

When you're back on the floor, take a wander over to the door in front of the house entrance. Standing with your back to the house, you should see that the door has a handle. Aim the mouse crosshairs directly at the handle and press the left mouse button. Laser beams fire at the door and it opens. You can't go through because there's no world through this door, but this demonstrates how objects can be made to sense things and react accordingly. Fire at the open door's handle to close it again.

Around the back of the house, you find another doorway in a courtyard wall. As you approach it, several coloured cubes appear. These objects have been set up to be invisible until they detect you getting close, which is another feature that could come in useful in a

game environment. For now, you can fire at the cubes and they disappear.

Now go back to the front of the house and turn to face it this time. You should see a window and a black doorway in the building's front wall. These special portals are the key to 3DCK's versatility. The doors are designed to sense you as you touch them – and as you go through, a different area (complete with a different set of objects) is displayed from memory. The courtyard world is temporarily forgotten, so your ST can keep its display speed up.

The new area you enter is a changing-room, with a small sink, a towel on a rail and a chair. The tiled floor is simply a few black squares placed on a large white floor. Even the taps are merely a few yellow blocks, stacked up on top of each other. Wander around the room and take a close look at the objects to see how they're put together. This may give you a few ideas of your own. Object creation is disabled in the demo, but there's nothing stopping you from editing the objects which already exist.

REDECORATE YOUR BATHROOM

After you've studied the bathroom, try editing a few of the objects in the room. Simply click on the EDIT icon and a list of the objects in the current area appears. You can double-click on a name in the list, or you can change the viewpoint until you see the desired object and then just click on it in the main viewing window. The

list disappears and the information bar shows the name of the object. If you wish, you can click on the HIGHLIGHT button to put a flashing frame around the current object. This can sometimes help to make sense of things, if the object is a weird shape or it's hidden behind something else.

As an experiment, why not change the sink unit into a bathtub? It takes a few moments, but it's really simple. Just select the stand which supports the basin and use the MOVE icons (remember left button slow, right button fast) to pull it away from the wall. You may even want to delete it for clarity, but beware: you won't be able to get it back. It's better just to

“You can climb the steps right up to the top of the building and walk around on the roof”

shrink it until it's no longer in the way. Then you can always stretch it into another shape later.

With the stand out of the way, select the main part of the sink bowl. Then move it down towards the floor, until it stops. You can't move it through another object, so when it stops moving it's butted up next to the floor. Now use the object view icons to centralise the view on the side of the sink, looking in the general direction

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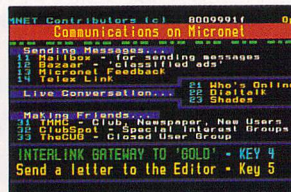
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DEMONSTRATION

Using a modem and view-data software, dial 0272 250000 using the ID 4444444444 and password 4444, for a Micronet demonstration – you can look up a local phone no. once on-line.

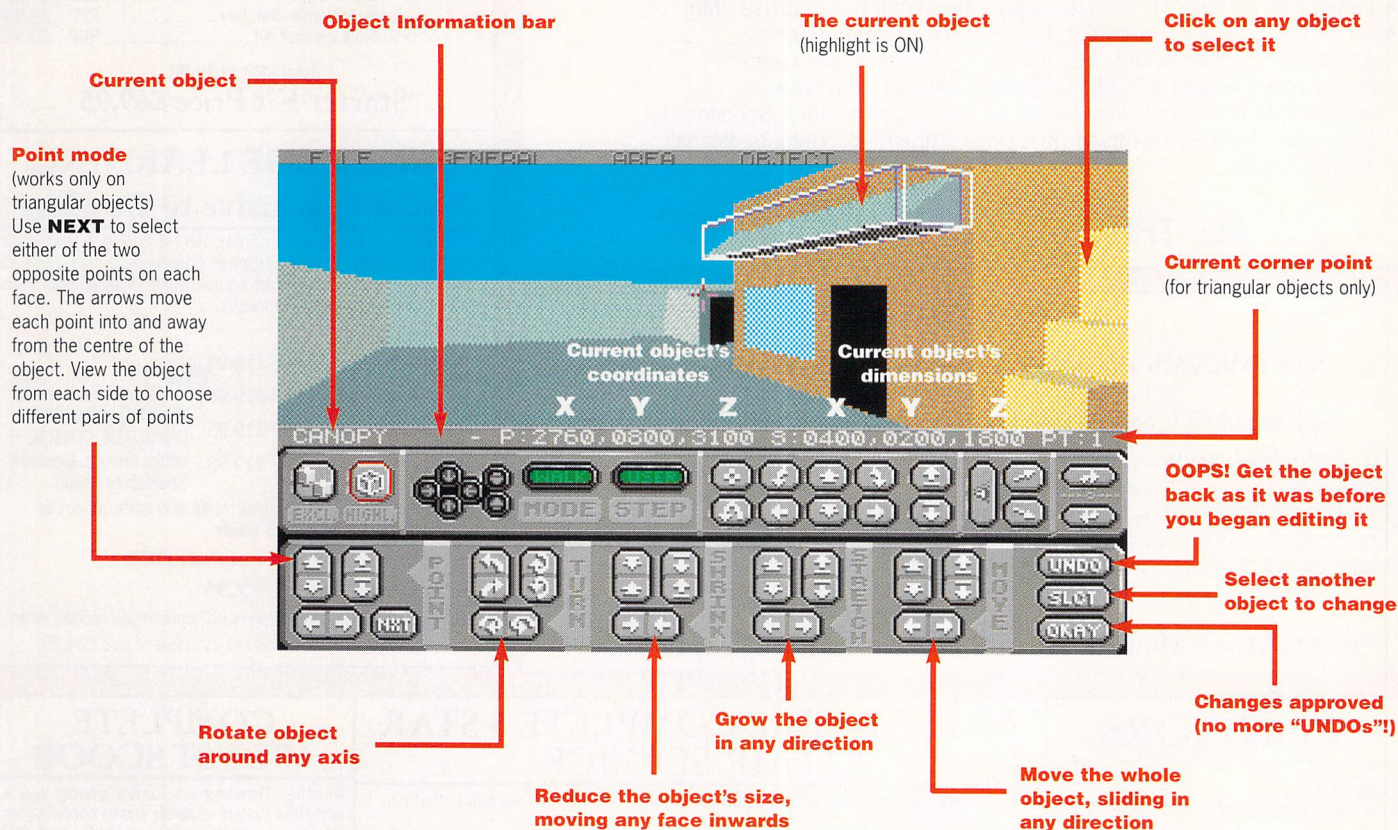
In touch. Informed. In a word ...

MICRONET

* FAX is an optional extra via the INTERLINK gateway. Cheap rate local phone charges are approximately 1p per minute inclusive of VAT.

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BLOCKBUSTERS! USING THE EDIT SUB-MENU



of the mirror. You may have to zoom in or out using the normal movement controls to get it framed up properly. Then you can stretch the sink at each end, making it longer. Use the bird's-eye view to widen the tub a bit and use the point controls to angle the sides of the tub in towards the bottom. You have to go all around the tub, using the NEXT icon to select each corner point in turn. Straighten up the side where

"To complete the effect of a new bathroom, why not turn the towel into a bathmat and use the bits of the towel rail as a shower unit? It's not difficult"

the taps would go, and leave a slight slope at the other end, so that it resembles a bath.

The next object to select is the recess, which is simply a grey rectangle floating above the bath. Move this down onto the top of the tub and resize it using STRETCH. You now have a very basic bathtub. For a better effect, select each part of the taps, in turn, and move them over to the end of the tub. It takes a bit of jiggling to get them positioned correctly, but the trick is to keep using the object view to determine the current position. If in doubt – move about! Check things from different angles just as you would in the real world.

PLUMB THE DEPTHS!

To complete the effect of a new bathroom, why not turn the towel into a bathmat and use the

bits of the towel rail as a shower unit? It's not difficult. Just select the towel group (GROUP 18) as the current object, pull it away from the wall and use the TURN icon to rotate it. You can then slide it into place on the floor. You can't resize the group, but you can resize each individual strip of towel. Flatten them and spread them out to make a big mat.

For the shower, you need to move each of the four pieces of towel rail along the wall until they're above the bathtub. Then you can reshape one into a block (for the control unit) and the other three into long pipes to carry the water up the wall and over the bath. You could

even reshape the stand (the first object you moved) into a shower rose. Every object you can see in the room can be reshaped – and that includes the walls themselves.

THE WHOLE WORLD IN YOUR HANDS

By now, you've probably developed hundreds of ideas for things you could create by modifying the existing bits. Experiment away, but remember that this demo has no save option to preserve your masterpieces for posterity (awwww!).

The full version of the program contains not only a save option, but a host of other features. Objects can be created from nothing, in various shapes and in many different colours too. You can also program special conditions for objects, so that doors could open automatically, objects animate and others explode. You can add sound effects and samples to make appropriate noises when things occur, and you can have more than just two areas.

There are all sorts of internal game-related functions you can use, like energy and time indicators, scoring systems and travel modes. These functions are controlled and linked together by a simple programming language and they are linked together to create your finished game-world, which you can play by itself. Just think of the possibilities: you could reconstruct your house and swap it with a friend's creation; design a small town, with all sorts of buildings; create an adventure playground, a tower block, a jumbo jet... The list goes on and on. You can play a game wherever you choose to build a world and your only limit is your imagination! **stf**

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When you finally decide to part with your hard-earned cash for a full copy of *3D Construction Kit* (Domark ☎ 081 780 2222), you say goodbye to £39.95. But you can say hello to Mandy Rodrigues, the person in charge of the *3DCK Users Club*. You need an original registration card (which comes with the complete package) to apply for membership, but it's worth it. The club offers additional help for users of *3DCK* and distributes a bi-monthly newsletter packed full of news, information, hints and tips on the system to help you get the very best out of it. There's also a helpline and a user forum for new ideas and discussions. So get out and buy the real thing, just as soon as you've pushed the demo to its limits! The ordering address is on the demo itself.

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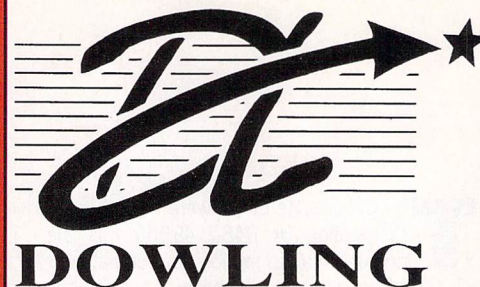
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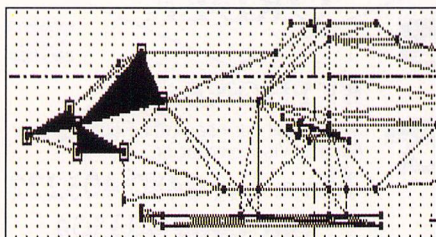
UNIT 3, FORGE CLOSE, LITTLE END ROAD, EATON SOCON, CAMBS

Try Cyber, punk!

The Cyber suite of software from Electric Distribution (☎ 0480 496666) is the nearest thing to motion control that your ST can offer. Here's an overview – but remember, this kind of animation can be complex and time-consuming, and you're going to need at least 1MByte of memory to get involved in it.



The successful Cyber series offers 3D design on the ST. Sean Masterson gives you a rundown of the programs



■ **CyberSculpt** handles a complex object in wire-frame and enables you to modify it

CYBERSTUDIO

This package contains the heart of the Cyber range of software, CAD3D2 – an entirely mouse-driven program with all the routines necessary for object definition and control. You can take shapes from the program's own collection of primitives – wedges, spheres and cubes, for instance – or you can design your own. Simply make a cross section of a shape and then extend or spin it about along a third axis.

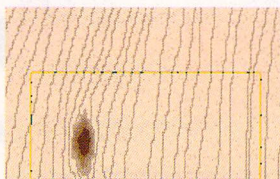
Objects can also be shown in wire-frame or as filled polygons. You can vary the position and intensity of light sources, even position them around or within objects. A camera offers you a view of the object from any angle and shows you step-by-step alterations in an object's shape or position. You can then record these on disk as SEQ or DLT files and animate them later.

CyberStudio also contains **CyberMate**. This is a command line interface low-level language with all the same features as **CyberPaint**.

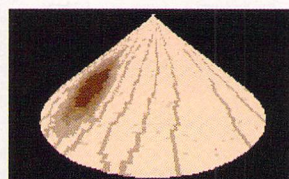
CyberStudio £51.00
STF Rating – 87%

CYBERCONTROL

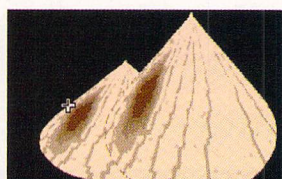
This is the most powerful but least friendly of the Cyber range of programs. Basically, it offers every feature of CAD3D2 but in the form of a low-level language. Objects from it and CAD3D2 are completely interchangeable. The advantage of using it lies in motion control rather than in object definition. Whereas movement through the 3D2 universe is handled on a frame-by-frame basis in CAD3D2, with **CyberControl** you can define a simple routine that handles all the



■ On **CyberTexture's** wood grain screen, define what area to apply to an object



■ Using **CyberTexture** you can then wrap the textured effect round a CAD3D cone



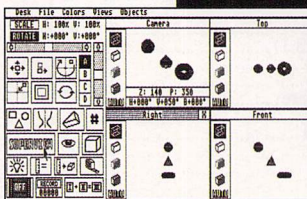
■ **CyberPaint** can then stretch the cone – this is the first of several frames

objects' movements far more quickly. However, it's not really of any practical use to a beginner because of its complexity.

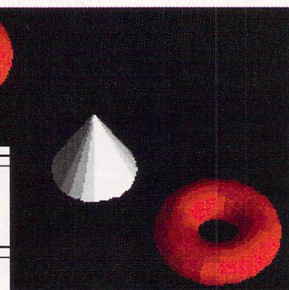
CyberControl £40.91
STF Rating – 69%

CYBERTEXTURE

Normally, objects are painted a single colour, with any variations in hue resulting from lighting effects set up in CAD3D2. However, with **CyberTexture** you can select one of a



■ This is **CyberStudio** itself – the meat of motion control. The camera view is finally saved as a *Degas* picture...



■ Here are three CAD3D primitives – the sphere, cone and torus – affected by a light source coming from the top right and saved out as a *Degas* file

library of wood, metal and other texture effects and then map that texture onto the faces of an object. You can even add your own simulated textures made from *Degas* images. All the appropriate distortion of the pattern is handled automatically by the program as the texture wraps itself onto your objects.

CyberTexture £51.00
STF Rating – 68%

CYBERSCULPT

This enhancement of CAD3D2 enables you to make and alter more sophisticated objects – although they can only be rendered in wire-frame within the program. Objects extended along an axis, for instance, can be twisted and bent along it. You can handle objects by their faces or vertices (corners), even selectively hide these features to clarify other aspects of the object. You can also push and pull objects out of shape to define a complex object more accurately.

Of all the Cyber packages, this is by far the most complex to use, and requires a good grasp of geometry and trigonometry to get the best from it. It's also slow and consumes a lot of memory. Nevertheless, it offers modelling potential you simply can't find anywhere else.

CyberSculpt £81.68
STF Rating – 78%

CYBERPAINT

This is an animation tool that enhances SEQ, DLT and 3D2 files. You can use it separately, but its full potential can be realised when it's used with CAD3D2. First, it loads up the object file with all the object information stored in the first frame. Add more frames and **CyberPaint** records only those frames which show any changes. This enables you to easily perform operations on your files that would otherwise consume valuable memory.

You can import pictures from any art package, add objects or animation sequences from CAD3D2 and re-touch frame by frame. Screen handling effects include spinning and miniaturising. You can also define cels like traditional animators, cut and paste frames or create fades. Mainly a finishing tool, but with great flexibility.

CyberPaint £51.00
STF Rating – 89%

■ Interested in the *Cyber* range of programs? There are loads of helpful *Cyber* files you can download via modem from CompuServe. For more info about this and other networks turn to our special Comms feature on page 102

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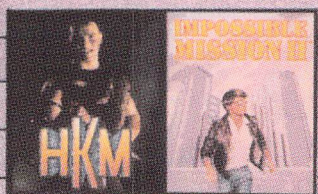
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3D CONSTRUCTION KIT

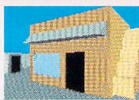
Start building your own world with this versatile demo of Domark's incredible new 3D gameworld creator

**REZRENDER**

Is this the best 3D object viewer for the ST? Lifelike shading and complex animation at a stroke

PLUS: American Football game; handy **comms** utilities - Code Finder, **BBS database** to auto-dial from **Vanterm**; **68K TO GFA** converts assembly language into **GFA Basic** code; **Chordex music tutor**; Bullfrog **Assembly language** tutorial; seven vital utilities: **Acc Folder** organises Accessories; **DC Disk Info** displays disk contents graphically; **DC Max Track**; **Desk Chooser**; **Polychrome palette-changer**; **ST Type**; **HD Scan** for hard drives

ALL PROGRAMS STE COMPATIBLE

15 dazzling programs!**Side 1**

3D CONSTRUCTION KIT - Build another world with this demo by **Castle Master's** makers
68K TO GFA - Turn machine code into **GFA Basic** program lines with this reader's program
ACCFOLDER - Organise those Accessories into one folder - and still get them working
CODEFINDER - Find out which telephone STD code belongs to which town
DCDISKINFO - Shows you graphically how much disk space you have free
DCMAXTRACK - Find just how far you can push your disk drive
DESKTOP CHOOSER - Boot up from the same disk in all resolutions
POLYCHROME - Enables you to mess around with the palette inside other programs

ST TYPE - What load of TOS is inside your ST? Find out whether it's a Rainbow or a Blitter
VANTERM CONFIG - Loadsa BBSes for you to dial up, in one file for use with **Vanterm**

Side 2

REZRENDER - Antic's incredible 3D rendering package - create stunning pictures from your **Cyber Studio** objects
CHORDEX - This excellent guitar and piano tutor helps you put your finger on it!
AMERICAN FOOTBALL - Red Forty-Two, Hut, Hut, Hut! Sack that quarterback!
HDSCAN 1.6 - Use this to speed things up when searching your hard drive
DIY ASSEMBLY - Part two of the Bullfrogs' series on assembly programming

**3D CONSTRUCTION KIT**

BY: INCENTIVE/DOMARK/
DIMENSION

SIDE: 1**MACHINE:** ALL COLOUR STs**FOLDER:** 3DCKIT

FILES: DEMO.TOS,
GAME.BDR, KIT.RSC, KITDEMO,
SAMPLES.BNK

This exclusive demo is a preview of Domark's new program, **3D Construction Kit**. The full program creates complete 3D games, like **Castle Master**, which was the inspiration for the **3D Construction Kit** system. Super-efficient 3D routines are combined with a

user-friendly editing system to bring you an amazing insight into the world of 3D.

This demo version has many features disabled, but there are still plenty to play with. You are limited to two areas to move around in, but these can be modified in any way you can think of. There are several objects scattered around both areas for you to climb onto, jump off, walk into or shoot at. You can then experiment with changing the shapes of the objects, stretching, shrinking, and twisting them into totally different things. (In the full package, you'd actually create new ones.)

To help you, there's a full-blown tutorial on page 30, where you can find everything you need to get the best out of the demo. Before you nip off there to start



■ Fancy yourself as an architect? Reckon you could build a house without leaving your chair? Well, actually you can, with 3D Construction Kit

experimenting, load up the demo by double-clicking on the **DEMO.TOS** icon. The program is designed to work in low resolution, and it's wise to disable any Desk Accessories you may have on your ST. After a few moments, the program displays the main courtyard area where you can begin exploring.

LOOK AT THE SIZE OF IT!

Every month, **FORMAT's** Technical Ed sets to work on the world-famous Cover Disk. Requiring more coffee and fags than any other magazine's disk to put together, this is, as they say in technical circles, big. This month there are 15 folders packed with goodies for you. And there's only 4096 spare bytes left over! (Figures removed because of competition on page 144 - Ed.)

OLD-FASHIONED SINGLES CLUB?

Things went a bit awry with the first STs Atari ever made. The drives they fitted could read only one side of a disk. Yes, it is a bit daft, but it gets worse. The old-fashioned "singles" couldn't even begin to read a double-sided disk. Not even the first few bytes. At least, not until **ST FORMAT** put its best brains on the problem...

ANYONE CAN USE IT

Rob Northen was an unknown genius living in Surrey, until he created the first **ST FORMAT** Cover Disk. Now he's a world-famous unknown genius living in Surrey, and his legacy is an amazing disk formatter that enables everyone to read at least the first side of the Cover Disk. No-one need be left out. We guarantee that this disk can be read by all STs, no matter how old or new.

DOUBLE THE FUN

If your ST is younger than three years old you should be able to read everything. To get access to the second side of the Cover Disk just double-click on the folder named **SIDE_2**, just as you would on any other folder. It should open up a normal window, listing all the files contained on Side 2.

IT WON'T OPEN?

If you have a single-sided drive and you try opening the **SIDE_2** folder, then you see an alert message. You're told that the data on the disk may be damaged, but this is just the ST's way of telling you it can't read Side 2. Don't fret, just click on **CANCEL** and you'll be okay.

TROUBLE-FREE DISK DRIVING

Whatever your ST set-up, you can't afford to take risks. **FORMAT's** Cover Disk is guaranteed virus-free - our duplication master disks are tested personally by the Tech Ed himself. But this doesn't make it fireproof. If the write-protect tab on the disk is left enabled (closed), then viruses can gain access to the disk. Protect your Cover Disk as soon as you buy it, by opening the tab and backing it up. It's the only way to be absolutely sure you're safe!

**REZRENDER****BY:** ANTIC PUBLISHING**SIDE:** 2**MACHINE:** ALL COLOUR STs**FOLDER:** REZRENDR

FILES: REZRENDR.PRG,
MARKSMUG.3D2

RezRender is a program for use with **CyberStudio** objects. These are objects created using **CAD3D v2.0** (see page 36 for more on this). **RezRender** can manipulate objects and alter their illumination, before using a variety of advanced shading routines on them. If all this has you scratching your head, then you probably haven't read the special feature on the Third Dimension (page 24).

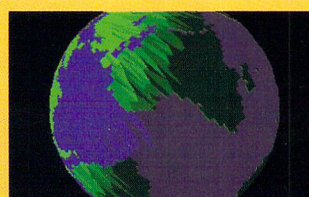
RezRender is a 3D tool you can use to make animations. Load it up in low res by double-clicking on **REZRENDR.PRG**. With the 3D object file on the Cover Disk (**MARKSMUG.3D2**), you can experiment with 3D shading and animation effects, regardless of whether

you have any other **Cyber-3D** programs. Load this up using the **Load 3D File** option.

You can move the imaginary camera around the object using the slider bars. You have (Z)oom, (E)levation, (A)zimuth, (P)erspective and (B)ank to play with. When you've moved the sliders around, click in the window itself to update it. The panel below shows the current angles and levels in numeric form.

You can also control the shading type to be used. Select one by clicking on the buttons at the top right of the display. You can choose anything from wire-frame to raytraced images. Remember that raytracing takes a lot longer to display than wire-frame.

Click on Options and you can access a submenu screen. Here you find controls for changing the object colours, altering the amount of diffuse (all-over) or specular (bright points) light, adding backgrounds or selecting dither patterns and highlights. These all affect the final image, and our advice is *experiment!* If the screen doesn't show anything



■ The whole 3D world is at your fingertips when you use RezRender to shade your Cyber 3D objects. Move out of the darkness, into the light!

after a few minutes, press the right button and the Spacebar to return to the menu where you can change things around again.

RezRender's most powerful feature is its animation, which you access by pressing Tween. This takes you to a separate screen with two camera windows. To make animations, use the left window to set up a start position for your object and the right one to set up the end position. You can preview the animation as a wire-frame image, which builds up over successive frames, or render it and save it to disk. The slider bar enables you to set the number of frames in the sequence.



CHORDEX

BY: EINSTEIN ON THE BLEACH SOFTWARE

SIDE: 2

MACHINE: ALL COLOUR STs

FOLDER: CHORD

FILES: CHORDEX.PRG

This is a simple but effective tool for budding musicians. If you play guitar or keyboard and are having trouble remembering chords, this

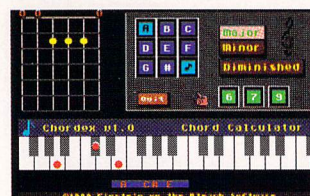
is for you. Load it up (low resolution is best) by double-clicking on CHORDEX.PRG. The display shows a guitar stave (top-left), a piano keyboard (along the bottom) and a number of icons which are used to select the chord types.

To find out the chord shape (that is, where you put your fingers on the guitar fretboard or the keyboard), simply click on the note A, B, C, D, E, F, or G. To see a chord like G sharp, click on G, then the # (hash) symbol. The chord shape is displayed on both the guitar strings and the keyboard. The keyboard also shows

the actual names of the notes below the keys, while the guitar stave shows which strings should be played open (O) or left unplayed (X).

You can learn Major and Minor chord shapes, Minor and Major sixths, seventh and ninths, diminished chords (plus all the diminished sixths, sevenths and ninths).

To make things even clearer, if you have a MIDI keyboard you can connect the MIDI OUT on your ST to the MIDI IN on the keyboard. Then highlight the little note symbol on the main display. Now when you select a chord shape, the key-



■ What note do you get when you drop a piano down a mine-shaft? A flat minor! What other kinds of musical mess can you make? Ask Chordex

board plays that chord automatically. You can use this to play along to, with either your guitar or keyboard. Neat, huh?



VANTERM CONFIG

BY: ANDY HUTCHINSON

SIDE: 1

MACHINE: ALL STs (requires VANTERM.PRG – see Cover Disk 17)

FOLDER: VANTERM.CFG

FILE: VANTERM.CFG

This one's for all you on-liners! (If you're not one yet, turn to the comms special on page 102.) VANTERM.CFG is a configuration file for use with Vanterm, the superb PD comms package. ST FORMAT gave away Vanterm v3.8 back on Cover Disk 17 (see back issues, page 138, if you want a copy), so dig it out.

First rename any existing configuration file so it's not overwritten. Then you can safely copy this new VANTERM.CFG to the same directory as Vanterm. Then just load Vanterm as normal and you have a brand new dial directory including some of the best bulletin boards and E-mail services. With a modem connected to your ST, you can just dial away automatically.

You usually need to register with the BBSs yourself when you get through, because we can't give you our ST FORMAT passwords, but this is normal. If you find things interesting, let them know we sent you!



AMERICAN FOOTBALL

BY: JEFF PARKHURST

SIDE: 2

MACHINE: ALL COLOUR STs

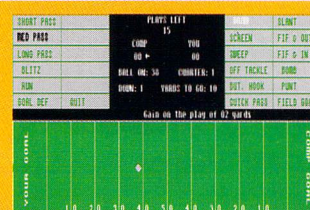
FOLDER: FOOTBALL

FILES: FOOTBALL.DOC, FOOTBALL.PRG

This medium resolution demo is for American Football fans everywhere. It's mainly a tactical game, so don't expect fancy graphics. It plays a mean game but it's not

impossible to beat. Read the FOOTBALL.DOC file first, and then load the main program FOOTBALL.PRG by double-clicking on it.

The display shows a plan view of an American football pitch, with the current line of scrimmage marked with a dot. You select the various plays (long passes, punts, running plays and so on) using the panel of options at the top of the screen. Your ST works out how well your team did (compared to the computer team) and displays the result. It then moves the ball to the appropriate position and play continues. Try experimenting



■ American Football is, they say, a game of four quarters, where you call the shots. Are you going to end up over the moon or as sick as a parrot?

with the different tactics – each offensive manoeuvre works best when met with a specific defensive manoeuvre, and vice versa.

WHAT'S UP, DOC?

Included in some of the folders on the Cover Disk there's a documentation file containing notes from the programmer, or an upgrade/contributions address, or operational hints and tips. These are always worth reading or printing out because *FORMAT's* Cover Disk pages often skimp on the highly-

detailed aspects of a complex program, especially if there are DOCs present on the Disk.

Documentation files are usually named something like README.DOC or PROGNAME.TXT. To read them just double-click on the file icon and you see a dialogue window appear. This says something like "You can only show or print this document." Click on

SHOW and your ST displays the file on-screen. (This is usually more readable in medium or high resolution, even if the program runs in another resolution.)

Click on PRINT and your ST sends the file to a printer – if it's connected and set up correctly. Be careful that you don't click on this if you don't have a printer, or you may cause your ST to "hang up."



POLYCHROME

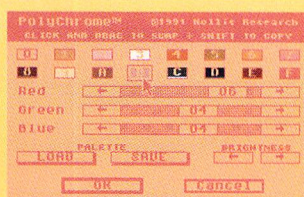
BY: JOHN HOLLIS

SIDE: 1

MACHINE: ALL STs

FOLDER: POLYCHROME

FILES: COLOUR.ACC



■ Changing the colour of your ST palette is usually something you can do only at the desktop. Now Polychrome changes all that, and gives you several handy colour-copying tools to boot

This Accessory is a handy utility for altering your ST's colour palette from within another GEM-based program. To use it, copy it to the root directory (that is, not in any folders) of your startup disk. You can then switch it on when you're in another GEM program by moving the mouse to the Desk menu and clicking on Polychrome in the drop-down menu.

Polychrome offers a number of colour-copying facilities and makes use of the STE's enlarged

colour palette. Just use the sliders to alter the colour of the currently highlighted colour block. Click on the colour blocks to alter another one, or hold down <Shift> and click on a block to drag it to another position.

Now you need never be "in the dark" when you load up your word processor with the wrong colour palette in memory!



DIY ASSEMBLY (PART 2)

BY: BULLFROG

SIDE: 2

MACHINE: ALL COLOUR STs

FOLDER: MOLYNEU2

FILES: SPRITES.S, SPRITE32.DAT

These files are for use in conjunction with Bullfrog's DIY assembly language programming guide on page 111. To use them, you need a copy of HiSoft's Devpac 1, which was given away on last month's Cover Disk (see page 138 if you need a copy). Load up Devpac in the normal manner and select "Load File." Then choose SPRITE.S with the fileselector.

FAULTY DISK?

In any disk duplication as earth-shatteringly large as *ST FORMAT's*, it's possible that a tiny proportion of disks might be faulty. If you're unlucky, sorry. You're guaranteed a replacement if you send your disk, enclosing an SAE, to: *ST FORMAT* June disk returns, 29 Monmouth Street, Bath BA1 2AP



HDSCAN 1.6

BY: TODD BURKEY

SIDE: 2

MACHINE: ALL STs (with a hard drive connected)

FOLDER: HDSCAN16

FILES: HDSCAN.DOC, HDSCAN.PRG, README.TRD, README12.PRG, HDSCAN.KEY, HDSCAN.MNU, MENU.TRB

This program is intended for STs with a hard drive connected. It's a complete shareware hard drive manager and it could be immensely useful. You can use it to conduct global searches, throughout your entire hard drive, to search out and tag files, marking them for backup or archiving. You can then safely back up only the new or altered files on your system, lessening the time spent on the backup process.

Complete instructions are included with the program and

you should read these first. Double-click on README12.PRG to access the programmer's specially designed help-mode. Go through each menu to find out exactly what HDSCAN can do for you. The keyboard arrows move you between menus.

A second helpfile, HDSCAN.DOC, is also recommended reading. When you're ready to run the main program, double-click on HDSCAN.PRG. You can access another on-line help facility by pressing <Help>.



CODE-FINDER

BY: JAY TAYLOR

SIDE: 1

MACHINE: ALL STs

FOLDER: CODEFIND

FILES: READ_ME.DOC, FINDER.TOS, CODE.DAT

This program could not have appeared at a better time. Now that British (we answer to no-one) Telecom have decided to start charging huge sums for those hitherto inexpensive Directory Enquiry calls, you need to stop yourself using them and going broke! *Codefinder* can't eliminate the need entirely, but it can reduce your costs a bit.

Suppose you've got hold of a telephone number and you're not sure which town it's in. How can you find out? Go through the phone directory looking at each town's code until you find the right one, or ring Directory Enquiries? *Codefinder* puts an end to all that. Just load it up by double-clicking on FINDER.TOS and then enter the Standard Trunk Dialling (STD) code of the number you're tracing. *Codefinder* does the searching for you and displays the town when found. It's as easy as that.



DESKTOP CHOOSE

BY: LONE WOLF

SIDE: 1

MACHINE: ALL STs

FOLDER: DESK_CHS

FILES: DESK_CHS.TXT, DESK_CHS.PRG

Desktop Chooser is just the business if you spend a lot of time switching between resolutions or use a multi-sync monitor. It's best on a hard-drive system, where it can save vast amounts of time. Copy the program DESK_CHS.PRG to an AUTO folder, where it runs automatically after a reset.

Create a folder called DESK_CHS on the root directory (that is, not inside any folders),

then use the Save Desktop command to create a different .INF file for each resolution. Change the DESKTOP.INF file's name after each save (so you don't overwrite the previous one) to HIGH_RES.INF, LOW_RES.INF and MED_RES.INF as appropriate. Then copy these to the DESK_CHS folder.

After a reset, your ST asks which resolution to switch to. For more info, read DESK_CHS.TXT.

THE DISK NEEDS YOU!

We need *your* software – games, utilities, demos – anything good, original and preferably short. If you've written anything worthy of the *ST FORMAT* Cover Disk (and remember, only the best will do), send it with this form and full documentation to: Neil Jackson, *ST FORMAT* Cover Disk Editor, 30 Monmouth St, Bath BA1 2BW. Allow at least four weeks for a reply.

Name _____

Address _____

Daytime 'phone _____

Program title _____

Size of files in K _____

What's so brilliant about it _____

Don't forget to: ■ Include on-disk and paper documentation ■ Write your name and address on the disk ■ Use a virus-free disk ■ Keep a copy of your program, because contributions are non-returnable

Please sign the following declaration: This program is submitted for publication in *ST FORMAT*. It is wholly my own work and I agree to indemnify Future Publishing against any legal action should copyright problems arise.

Signed _____

Note: we pay out up to £800 for contributions to our Cover Disk. But to earn that kind of dosh, of course, you'd have to write something pretty spectacular, original and complex.



ST TYPE

BY: MARK S BAINES

SIDE: 1

MACHINE: ALL STs

FOLDER: ST_TYPE

FILES: ST_TYPE.TXT, ST_TYPE.TOS, ST_TYPE.C

What kind of ST have you got? Just double-click on the file ST_TYPE.TOS to find out! The TOS, GEM and AES version numbers are all displayed, and they're worth marking on your ST's casing somewhere. This can make life a lot easier for you and your repair-engineer if you ever suffer from program-incompatibilities.

For more info check the files ST_TYPE.TXT (the programmer's notes) and ST_TYPE.C (the C language source-code).

BACK UP YOUR DISK!

Because the *ST FORMAT* Cover Disk is non-standard, the back-up procedure is not simple. Follow these steps, though, and you won't encounter any problems. Do it any other way and you could mangle your Cover Disk. And then where would you be?

1. Format a couple of blank disks (you may not get all the data onto one) – single-sided if you've got a single-sided drive, double-sided if you have a double-sided drive.

2. Write-protect (notch open) the original Cover Disk and insert it into the drive (if you have two drives, you lucky devil, insert the Cover Disk into drive B). Double-click on the drive B icon to open a window showing the Cover Disk contents. If you haven't got a second drive, a message appears requesting you to put disk B in drive A. Simply click on OK.

3. Insert one of the blank formatted disks into drive A (removing the Cover Disk if you have only one drive). Double-click on the drive A icon and open up another window. You may be asked to insert disk A in drive A – you already have, so just click on OK again.

4. Highlight each folder in the drive B Cover Disk window and drag them into the drive A window, one at a time.

5. If you have one drive, you're asked to insert disk A and disk B at regular intervals. Don't mix the two up! Disk B is the Cover Disk and disk A is the freshly formatted disk.

6. When you get a "disk full" error message, recopy the incomplete folder and any subsequent folders onto the second freshly formatted disk, using steps 3 and 4 above.

7. Double-sided owners, double-click on SIDE_2 once you've finished copying all the folders from side 1 of the Cover Disk. Copy the folders inside as you did in step 3. When it's finished, use only the backup. Put your Cover Disk away safely.

8. Don't forget, you must not try to use the standard Atari disc copy (dragging floppy A onto Floppy B) function – it won't work.



ACC-FOLDER

BY: MURRAY LEVINE

SIDE: 1

MACHINE: ALL STs

FOLDER: ACCFOLDR

FILES: ACC_FOLD.PRG, ACC_FOLD.TXT

ACCFolder is an autobooting program to help you keep your Desktop tidy. Copy ACC_FOLD.PRG to a folder called AUTO and it runs automatically when you boot up. It looks for a folder called ACCS, where it expects to find your Desk Accessories, then loads them into memory as normal. To use it, create a folder called ACCS on the root directory and copy all your .ACC programs there. If they use resource (.RSC) files, you may need to leave these on the root directory, rather than putting them in the ACCS folder too. It depends on how intelligent the Accessory is. Try doing both to find out.

For more information, read ACC_FOLD.TXT for some notes from the programmer himself.



The first Stereo Sample adaptor for the ATARI ST, STF & STFM

WHAT IS PLAYBACK?

PLAYBACK is a neat hardware cartridge which plugs into the ROM port of any 16 BIT ATARI computer and provides 2 channel (Stereo) sample output from its twin RCA style phono connectors. These signals can then be fed into any standard LINE or AUX input of a HI-FI amplifier for truly stunning stereo output when running programs compatible with this cartridge. The cartridge avoids using the much slower printer port and subsequent lower sound quality, the cartridge port places no practical limit on the top band width of sound quality.

PLAYBACK enables the owner of a standard ST, STF or STFM computer to take advantage of the new breed of Stereo software which is starting to appear for the ATARI 16 BIT computers. It remains a commitment of MICRODEAL to maintain compatibility across their range of musical products wherever possible. To this end, PLAYBACK offers a superb, low cost enhancement to QUARTET version 1.5, the worlds first and best professional multi voice sample sequencer for the ST. PLAYBACK provides QUARTET version 1.5 owners with the ultimate in high quality STEREO music for the first time. Obviously owners of MONO samplers such as MASTER SOUND II, REPLAY 8 and REPLAY PROFESSIONAL can take advantage of the two channel outputs to create even more stunning effects in their own programs or with DRUMBEAT STEREO included with this package.

As well as the PLAYBACK cartridge, this package contains the following:

DRUMBEAT STEREO

PLAYBACK provides a sophisticated 2 channel DRUM sequencer which allows up to 15 samples to be loaded into the KIT. DRUMBEAT provides up to 50 patterns in memory at once. The patterns may be assembled into a list of up to 99 ordered entries to compose a SONG and up to 10 songs may be held in memory at once. The TEMPO can be varied from 40 to 239 beats per minute either internally or externally via an external MIDI system master control. Timing can be set at 1/8, 1/16 or 1/32 with or without triplets.

QUARTET STEREO DEMO DRIVER

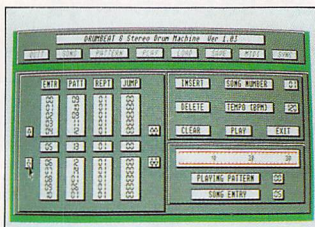
One of QUARTETS top mono music demo's has been adapted to give full STEREO output with two left channels and two right channels. The graphics display is easily adaptable using a paint program to customise your own graphics and the Scrolling message can be changed by simply editing the file using an editor or word processor. The STEREO Quartet music played with the demo is one of our latest mixes and if you have your own Quartet music you can replace our music very easily with your own.

INCORPORATE STEREO OUTPUT IN YOUR OWN PROGRAMS

We've thought of everything for the home programmer and have included sample STEREO routines for Hi-Soft Basic, GFA Basic and machine code, and before long we are sure many commercial products will support this high Quality STEREO cartridge which brings a regular ST owner STEREO output similar to the STE.

FULL QUARTET VERSION 1.5 SUPPORT

If you are thinking of upgrading to Quartet version 1.5 or already have a copy then STEREO PLAYBACK is fully supported with 2 channel output through each speaker and playback as clear as your regular hi-fi output!



DRUMBEAT STEREO



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QUARTET DEMO DRIVER

ATARI ST

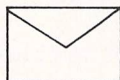
PLAYBACK ORDER FORM

Please send me PLAYBACK the best stereo output cartridge for the Atari ST
Playback is £29.95 post & packaging £1 (all prices inc V.A.T.)



**BY PHONE
WITH
CREDIT CARDS**

(0726) 68020



BY POST:with Cheque Postal Order or Credit Card

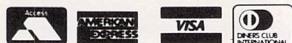
Name.....

Address.....

.....Postcode.....

Credit Card Type.....Expiry Date.....

Number.....



Please allow up to 28 days for delivery

Send to: Microdeal PO Box 68 St Austell Cornwall England PL25 4YB



DCMAX-TRACK

BY: DC UTILITIES
SIDE: 1
MACHINE: ALL STs
FOLDER: DCMAXTRK
FILES: DCMAXTRK.DOC,
 DCMAXTRK.PRG

Did you know that Atari shipped out STs with many different kinds of disk drive inside them? Some are capable of storing more data onto a disk than others. Almost all

are capable of storing more than Atari recommend with no danger of data-loss.

This little program can test your disk drive to see what its reliable maximum capacity is. All you need is a blank disk, which is used to store test data while the program works out the sizes.

But, a friendly word of warning: *do not* leave the Cover Disk in the drive unprotected as you run DCMaTrack – you might wipe it clean! You have been warned! For more detailed info on this program check out the file DCMAX-TRK.DOC.



68K TO GFA

BY: CRAIG SMITH
SIDE: 1
MACHINE: ALL STs
FOLDER: 68KTOGFA
FILES: 68000GFA.DOC,
 68000GFA.PRG,
 EXAMPLE.BAS, ROUTINE.S

This really rather smart program is the work of ST FORMAT reader

Craig Smith from Scotland. It's a utility which turns machine-code programs into GFA Basic program lines. It's aimed at readers who've been following *FORMAT's* GFA Basic Tutorial (STF issues 19 to 22) and are moving on to the DIY assembly guide which began last issue (see page 138 to order a copy of any of these you may have missed).

Full documentation and an example conversion can be found in this folder. Double-click on 68000GFA.PRG when you are ready to begin converting.



DCDISKINFO

BY: DC UTILITIES
SIDE: 1
MACHINE: ALL STs
FOLDER: DCDSKINF
FILES: DISKINFO.DOC,
 DCDSKINF.PRG,
 DCDI_CFG.PRG

This utility can show you exactly how much disk space you have left on any disk. It simply displays a graphical representation of the used portion of the disk, leaving the rest blank. To use it, double-click on DCDSKINF and just follow the prompts. The file DISKINFO.DOC contains full details on how to install the program in memory and how to use it in conjunction with other DC utilities.

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Before you ring, please make sure you have thoroughly read all the relevant parts of these Cover Disk pages and all documentation files. If that doesn't solve your problem, try consulting your Atari ST Owner's Manual, which may help you find what you're doing wrong.

If all else fails, give us a buzz during the hours specified and we'll do our best to help. However, we don't write the Cover Disk programs ourselves, so we may not know *everything* the programmers do. Try to have the ST nearby (up and running), and let us know which model ST you have, plus the issue number of the Cover Disk that's giving you hassle. Do this before you call, and it might save you a large phone bill when we go tell you to go back and find out!

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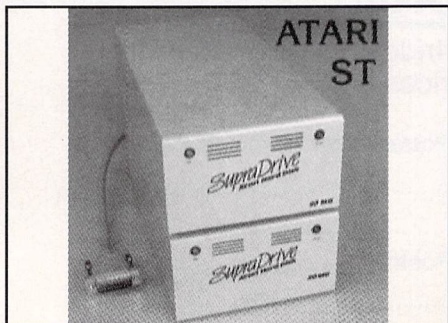
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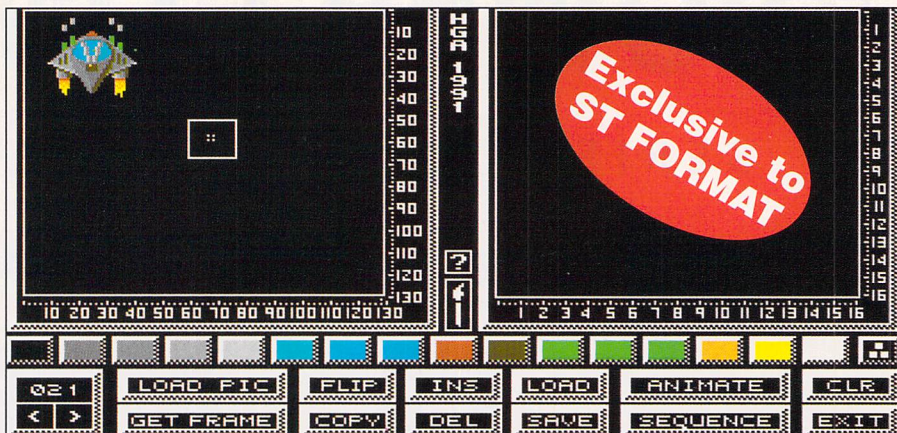
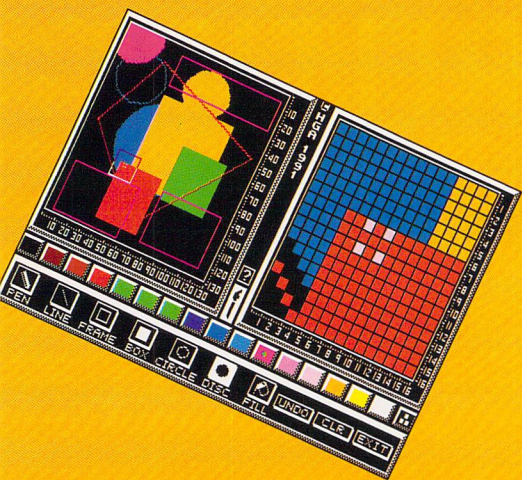
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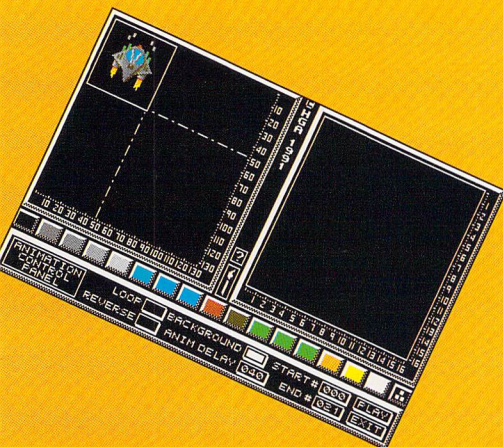
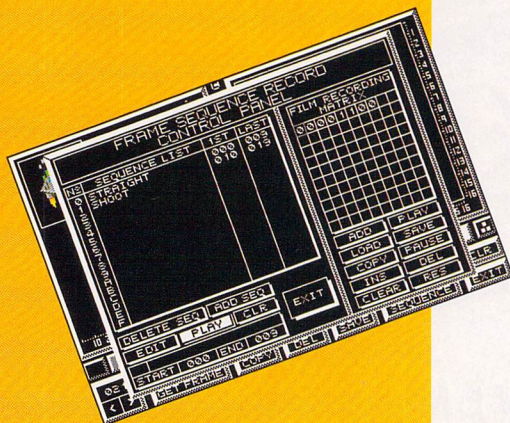
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A taster of *Animaster* appeared on Cover Disk 21. The full version of the program enables

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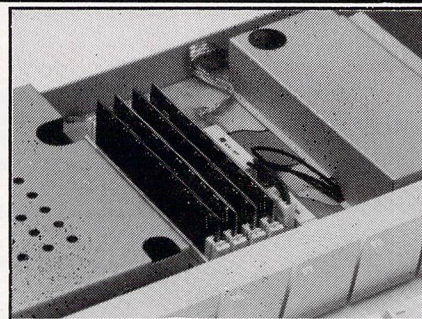
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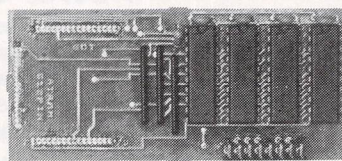
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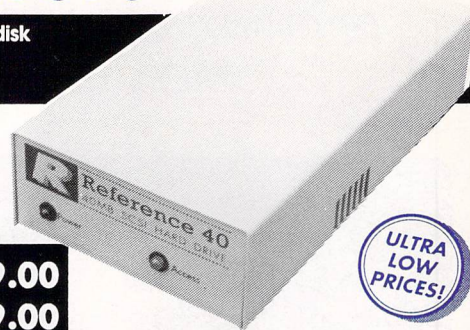
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Screenplay

Relax, settle down in your favourite armchair, make a nice cup of tea and grab a biscuit or two. Breathe a sigh of satisfaction as you read all about mass suicide, futuristic blood-letting, savage pirates and harrowing war experiences in this month's Screenplay. Oh, and have a nice day!



THE SECRET OF MONKEY ISLAND

Don a fake wooden leg, strap a parrot to your shoulder, adopt an unconvincing pirate accent and step aboard US Gold's latest adventure
page 50

MOONSHINE RACERS

Dagnabbit, boy, git yer boots on and git yerself movin' – you've got some moonshine to deliver! Chew that baccy in Millennium's roadster
page 54



THE STF RATINGS SYSTEM

● It is **ST FORMAT** policy to review only finished games – that is, the games you could actually buy in the shops – never incomplete or demo versions

GRAPHICS: A score out of ten for the quality of visuals and animation, including how big and colourful the sprites are, how smooth the scrolling is, and so on.

SOUNDTRACK: (out of ten) Sampled sounds are realistic and rate highly but ST sound chip noises tend to send your eardrums convulsing

INTELLIGENCE: (out of ten) How clever do you need to be to tackle the game? Puzzle and strategy games should be tough; few shoot-'em-ups are mentally taxing

INSTANT APPEAL: (out of ten) You take the game out of the box and drop it in the drive. How well does it draw you in? How easy is it to get into?

LONG TERM INTEREST: (out of ten) You've had the game for a couple of weeks. Is it covered in dust, in the bin or still in your drive?

OVERALL: (a percentage) Terrific graphics and wonderful sound make a game look hot, but they don't make it great. The overall score comes after joint discussion between the **FORMAT** reviewers and depends on the quality of the gameplay and its long-term appeal



THE KILLING GAME SHOW

Forget Exit, it's too complicated. Why not try *The Killing Game Show* and end those long, dreary, empty days? Psygnosis give you the once-in-a-lifetime opportunity to be killed in front of several million viewers
page 62

'NAM 1965-1975

Can you take another war game? Domark think so. It's fun, fun, fun all the way with this complex, involving simulation of the Vietnam War
page 58

PREDATOR 2

Blimey, look at the mandibles on that! Say hello again to this less-than-happy chappy. He'd like to shake you warmly by the throat
page 65



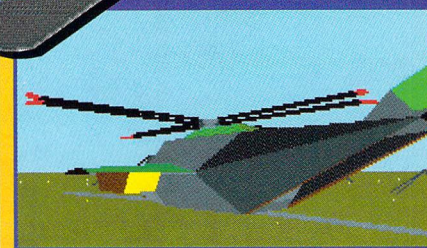
■ The **FORMAT** crew: Neil Jackson (war correspondent), Andy Hutchinson (blood-letting specialist and closet pirate) and Ed Ricketts (expert in maiming, mayhem and making a nice cup of tea afterwards)

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THE 3D TOP TEN

Ooh, it almost looks real, doesn't it? Join Adrian Stevens, the Assembly Line's resident 3D expert, as he picks his top ten 3D games. (Red and green glasses not included) **page 73**



A whacking 35 games cracked on page 81 – Beat the Berzerker in Warhead Solve Infestation ● Conquer Supremacy ● Operation Stealth solution concludes



LUCASFILM/US GOLD £24.99

■ Scumm Bar is where all the local Pirates hang out in this graphic adventure – or, if sozzled, hang from chandeliers

The secret of Monkey Island



Pirate Wanted: Must be enthusiastic, naive, short, one-legged and capable of swigging back flagons of inebriating grog with extreme gusto. Andy Hutchinson volunteers for the job and attempts to unravel the grisly – some might say shocking – secrets of Monkey Island

Lucasfilm have something of a reputation for producing games which look great, play well and yet lack that magic ingredient which leads to sleepless nights and square eyes. However, they're not a company to let things stay as they are. *The Secret of Monkey*

Island represents a major rethink of the graphic adventure genre.

The adventure starts by a lookout at a well known pirate's hang-out known as Melée island. You, as Guybrush Threepwood, stroll into the game and find a wizened old man staring out to sea and keeping

watch over the island. This is all very well until you realise that the lookout is in fact totally blind.

You tell the lookout that you want to be a pirate. Rather than laughing in your general direction, he advises you to stroll down to the village hostelry called, appropriately enough, the Scumm bar. He then advises you to speak to the inebriated pirates propping up the bar.

After you find the bar and some suitably "official" looking pirates, they

inform you that in order to become a pirate you're going to have to complete three tests. The first of these is to prove your skill as a swordsman by beating the island's Swordmaster. The second involves stealing an idol from a high security mansion and the third has you finding the infamous treasure of Melée island.

This is where the adventure really begins. You soon realise that your three tests merely make up one

"Normally humour in a computer game isn't terribly good. Monkey Island fights the trend – it's really, really funny"

of four main sections of the game. As soon as you think you've solved a section, another one arises which needs a quick and clever solution.

You control Mr Threepwood by using the mouse. As you wander about, you can interact with the scene

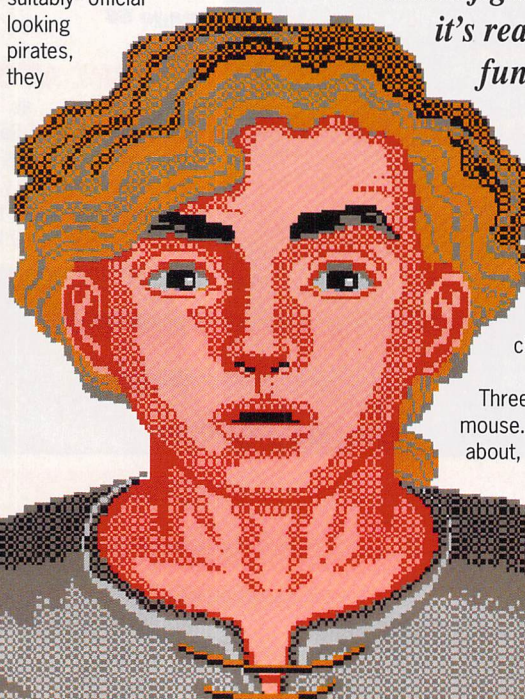


■ Speaking of pirate bands, these ghoulie musicians are bustin' a groove and their necks

ONLY FOOLS AND PIRATES



■ Guybrush's mission to become a pirate doesn't start off at all well. You haven't even gone down to the village yet and the wise old lookout has already mistaken you for a keen MFI sales rep



CLASH OF THE QUICK TONGUED TITANS

The fight sequences on *Melée* are no ordinary affair. Rather than have a protracted battle, you must come up with a better insult than your oppo-

nent. The more pirates you fight, the more insults you learn. These pirates come in three flavours – Ugly, Dirty Rotten and Bloodthirsty. The softest of

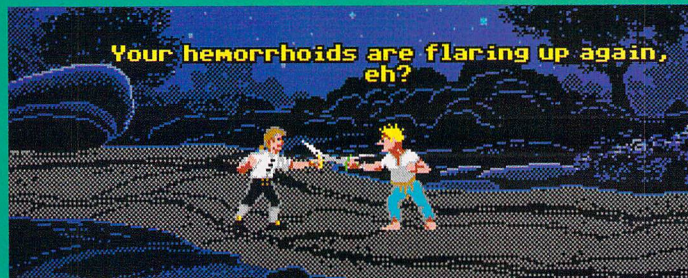
these is the plain vanilla Ugly pirate. The Bloodthirsty pirate is the hardest and he has some choice insults to throw your way, like this chap.



■ Guybrush opens up here with a very hard manoeuvre – he's got a difficulty rating of 4.7. Note the important forward leaning stance...



Yes, he can! What an absolutely marvellous choice – a Romanian underarm police insult number 1. Surely there's no comeback now



However, Bloodthirsty pirate Blondie replies with a dazzling triple Salco bottom gag, beautifully executed. Can Guybrush reply?



There isn't! Guybrush puts another nick on his sword handle. This plucky youngster from Wigan really is a world class pirate!

shown in the upper portion of the screen. In the lower half you find your inventory and the control phrases. Just below the graphics, you can also see a single line – this

is where all your command phrases appear when you need them.

To make your character walk somewhere, you simply click on the "Walk to" icon and then on a position

on the screen. So if you're in a room and you want to climb down some stairs you simply click on "Walk to" and then on the stairs. In this way you can get about the island with the minimum of fuss and bother.

You can also interact with any of the objects you see in the room, but only if they appear in the command description line. As a result, you can quickly find out what's of importance in a room by scanning your cursor around the screen.

You can look at, pick up, open or close, turn on or off, or give any of the items you find on your quest. When you speak to someone, the

command phrases disappear and four speech options take their place. So, for example, if you've just met a rough looking pirate you can say "Hi, Don't these roads all look the same,"

"Prepare to die" or "I must be on my way."

To solve the puzzles you must pay attention to every detail. At first, some of the objects you pick up on the way seem to be useless. Within any major problem – trying to become a pirate for instance – there are literally hundreds of aggravating smaller puzzles to keep you occupied.

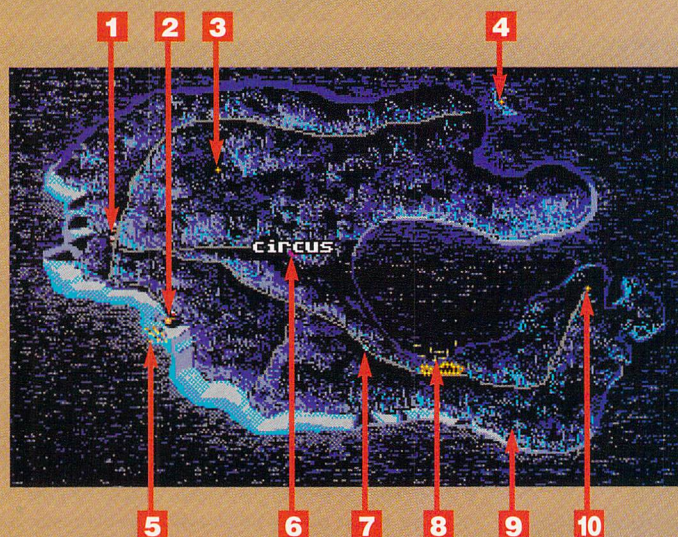
For example, in the first stage of the game you need to get a prisoner



■ Do you really need to ask that?

ISLAND PARADISE?

Melée Island is where you start out on your adventure. Be sure you check out Stan's Used Shipyard. This is where you meet Stan, the Arfur Daley of the 17th century maritime society. Ask him for some transport assistance.



- | | |
|-------------------------------|--------------------------------|
| 1 Pirates looking for a fight | 6 Spaghetti Bros Circus |
| 2 Big Rock Lookout point | 7 T(r)oll Bridge |
| 3 Swordmaster's House | 8 Stan's Used Shipyard |
| 4 Hook's Guest Rooms | 9 Totally Insignificant cave |
| 5 Village of Mélee | 10 Cap'n Smirk's Pirate School |



■ The island of *Melée* is home to some severely disreputable and seedy characters, a sort of 17th century West-Indes-enders. If this is West-Indes-enders, then this must be Captain Albert's Square. In which case if you look carefully at that mob on the left, you can just see Ian Beel-hook, Sharon Watts-parrot and Mark Fowler-hook



■ Mummified heads and eyeball necklaces are obviously all the rage on Melée island. If you really want to be a pirate, you mustn't be afraid

the distance, for instance, Threeewood gets smaller and smaller. This gives a real impression of landscape depth. Even so, when there is a lot of colour cycling on-screen – next to a waterfall for instance – you do tend to slow down to more of a leisurely stroll.

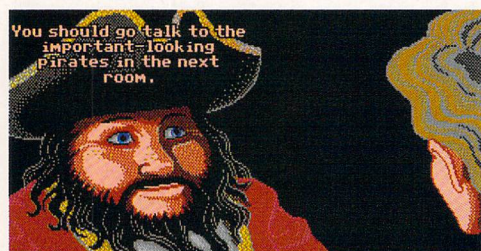
Sound consists mainly of a number of "theme" tunes or motifs for different sections of game. As you wander around the island of Melée, for example, a suitably jolly tune plays, while on ghost pirate LeChuck's boat, a sea shanty plays. The tunes are a bit wearying, but there's always the volume control if you get fed up.

out of jail. You've already discovered that the Pirates' drink (grog) is highly caustic. The obvious thing to do is to pour grog on the cell door and get the prisoner out that way. Unfortunately the grog keeps melting the pewter mugs. The answer? If you use your noggin, it's simple. You have to use several pewter mugs, pouring the contents from one to the other as they approach melt-down. It's easy when you know how.

"There's no better entry into the world of the graphic adventure than The Secret of Monkey Island"

EFFECTS

Stunning. At times, when you're watching the cartoon-like scenarios



■ Excuse me, sir, but we're doing a remake of *Mutiny on the Bounty* and something tells me that you're a complete natural for the part

unfold, you'd swear you were watching a movie. Rather than plumping for one particular perspective, Guybrush wanders in and out of the landscape from many different angles.

Each scene or view is lovingly created and the backdrops ooze detail. It's this which sets *Monkey Island* apart from the competition. Pirates stroll around the town, birds swoop in and out of the scenes and the sun glistens on the horizon. The animation is also excellent. When you go into

VERDICT

Show-stopping games are few and far between but *Monkey Island* is definitely one of them. You can't fail to be struck by the attention to detail in this lavish game. What really raises it above other graphic adventures though is the superb quality of the humour.

In a computer game, humour is not normally terribly good. *Monkey Island* fights the trend – it's really, really funny. Everything, from ghost pigs to a talking tatoo called Roger, lifts the game and makes it a joy to play.

There is no better entry into the world of the graphic adventure than *Monkey Island* –

MONKEY ISLAND

You've already become a pirate, you've got yourself a boat – you've even got a suitably mutinous crew. Now all you have to do is wander around this lump of volcanic rock and discover its mysterious and hidden secret.



- | | |
|-----------------------------|--------------------------|
| 1 Herman Toothrot's Fort | 6 Paddle Canyon |
| 2 Not-so-cannibal Village | 7 Blimmin' Hungry Monkey |
| 3 Shooting Range Mountain | 8 Banana Tree Beach |
| 4 River Fork (with dam) | 9 Dead Man's Pond |
| 5 Message-in-a-bottle Beach | 10 Monkey Head Gateway |

there's something here for everyone. Kids are going to love the funny and attractive graphics and experienced adventurers are going to enjoy working out how you get a six foot banana picker through a two foot hole. It's lush and intense and I'm sorry I've finished it.

ANDY HUTCHINSON

GRAPHICS	9
SOUNDTRACK	6
INTELLIGENCE	9
INSTANT APPEAL	9
LONG TERM INTEREST	9
OVERALL	94%



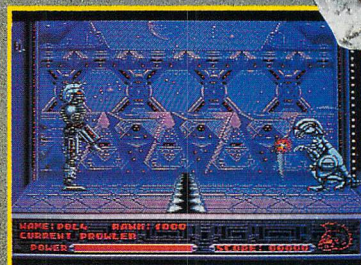
■ That ship is looking a whiter shade of pale. It must be ghost pirate LeChuck's spectral vessel (gee, that sounds like a great name for a band)

METAL MUTANT

Metal Mutant is the ultimate future battle machine, sent to the planet Kronox to search out and destroy the tyrant Arod 7. A miracle of future bio-technological science, Mutant can transform at any stage into three different robotic forms. Mutant has a huge range of different combat moves as he fights his way across Kronox. He fights not just tooth and claw but tooth, claw, missiles, rope, shield, whip, torpedo, battle computer and remote flying droid.

Metal Mutant is a science fiction exploration and combat epic featuring over 160 fully-bitmapped screens, 24 different combat moves, intriguing puzzles and more than 40 different enemies plus end of level guardians.

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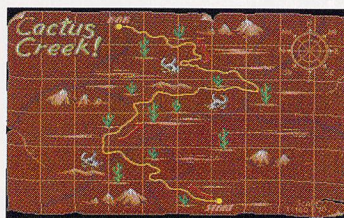


MILLENNIUM £24.99

Moonshine Racers

Dag and indeed nabbit. Moonshine Racers has been a while arriving (maybe it was the traffic) but it's finally here. Does it live up to the hype? It takes place in the deep American South and stars two good ol' boys by the name of Ike and Billy Joe. Being the devil-may-care-but-they-certainly-don't-funsters they are, their sole objective in life is to deliver their moonshine to Old Man Tucker, who pays them handsomely for their trouble. Unfortunately the police are after them too.

On each level you must deliver the moonshine to Tucker before your time runs out. No Formula One racers here – all you have is your beat-



■ Before a race you can look at a map of the whole course – the further you go, the harder it gets

up old wagon – and it tends to blow up. Later on, your truck is upgraded to something a little more useful – a saloon – and ultimately, a hot rod. The gears are immensely complex – a low gear for slower driving and a

high gear for, er, faster driving.

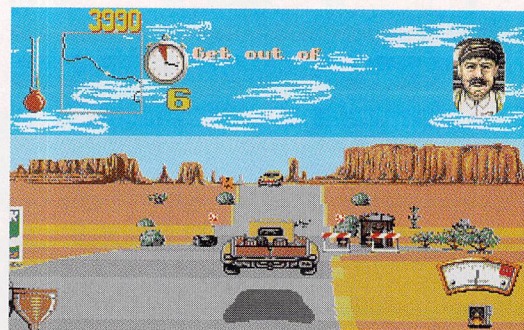
You don't just have the bends and curves of the track to contend with either. Strewn along the way are tumbleweed, tyres, barrels, other vehicles and even trees, all of which take their toll on your labouring engine. Worst of all are the police barricades – crashing into one of them alerts the sheriff and he gets on your tail quicker than the man from the Inland Revenue on the fifth of April.

Complete a level successfully and you visit Marlon's shop for spares. At first you only have enough money to buy the simplest of things, such as tyres, but as you earn more cash from your deliveries you can purchase really useful stuff – a turbo for instance. This runs on nothing but neat moonshine and can put a mile between you and the sheriff in seconds.

EFFECTS

Nothing much to worry about here. The graphics are sufficiently detailed to convey the atmosphere and the road scrolls along nicely. Even so, the road itself seems more blocky in style than the other sprites – it could almost have come from a different game.

The backgrounds are well drawn and change with each level – not that you have time to look at them in any detail. There are plenty of roadside/onroad sprites too. Unfortunately this sometimes means there are too many on the screen at any one time and the track starts to look cluttered. Even so, the hills are con-



■ Become a Moonshine Racer and get racing with that moonshine. Here's your chance to put on a silly hat, spit goblets of tobacco and shout "yee-haw!" whenever anybody moves. Fun or what?

vincing and so is the way your truck bounces over them.

Sound isn't as good as the graphics – just the usual bumbles from the soundchip. It's not sampled, which is a shame because a digitised "yee-haw!" would have been just perfect.

VERDICT

Moonshine Racers adds a novel angle to a tired genre. You actually have to aim for something rather than

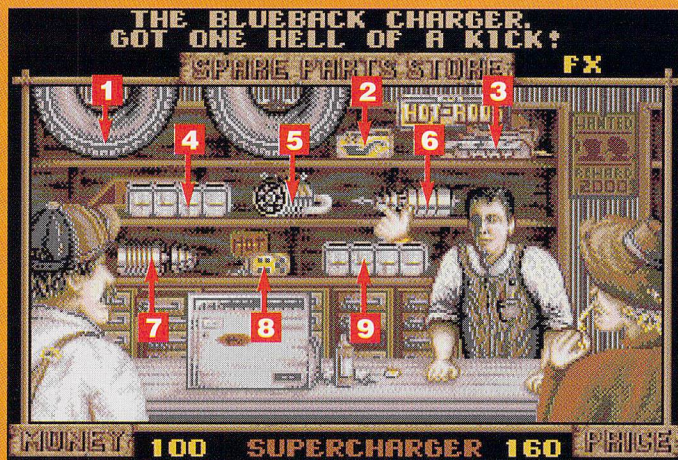
just beat the clock or another racing opponent. This means you're bound to care more about the outcome of the game and thus try harder to beat it. You don't start back on the first

level when you die either – you have three lives. You can even improve your truck with add-ons. All this makes Racers far more interesting than other racing sims. It's not an exceptional game but you're more likely to want to beat it than give up in despair – and that has to be a good sign.

ED RICKETTS

I'LL TAKE THE FURRY DICE IF YOU DON'T MIND

Visit Marlon's Family Shopping Emporium for all your moonshining needs. They have plenty of everything permanently in stock and are open weekends and Bank Holidays. PLUS! Free with every \$20 spent – an "I've shopped at Marlon's" sticker. Can you resist the ultimate in accessories?

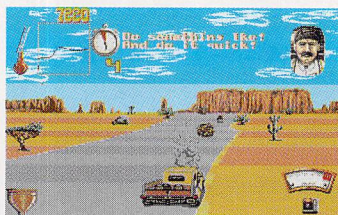


- 1 Tyres – replace the ones you've worn out with these
- 2 Tobacco – on the face of it, doesn't seem to have any use
- 3 Map – three increasingly costly types for route info
- 4 Woodman V6 Engine – has great acceleration
- 5 Turbo – provides a huge burst of speed when needed

- 6 Blueback Charger – like a permanent turbo – speeds you to undreamed-of velocities
- 7 Tallpine Supercharger – an even better charger to get
- 8 Furry Dice – obligatory for the stylish motorist! Wait and see what advantage they give
- 9 Spearjack Speed Engine – pricey, but worth it. Great on speed, but not on acceleration



■ Drive carefully through these police barricades, just as you aren't doing here, and avoid the police – remember your booty!



■ You can't push an engine too hard for long or it fights back – mainly by exploding in your face. Lucky you have a spare engine...

GRAPHICS	8
SOUNDTRACK	6
INTELLIGENCE	5
INSTANT APPEAL	8
LONG TERM INTEREST	7
OVERALL	78%



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Back to the Future 3

First there was a film called *Back to the Future*, which was incredibly successful and spawned the inevitable ST spin-off game. Next there was *Back to the Future 2*, a little less successful and also with the obligatory game. Now, finally, there is *Back to the Future 3* – the film and the game.

Back to the Future 3 has four different levels corresponding to scenes from the film. It's all a bit complicated because Marty McFly and Doc Brown have gone back to 1885 so that Marty can save the

Doc before he's killed. Each level is a sub-game, set in a different style. In the first, you ride through various scenes chasing a runaway cart that's carrying Clara (the new teacher) towards a ravine. The second level is a simple fairground duck-shoot. The third is basically another shoot-it-up, but one where you fire custard pies at the baddies rather than bullets, and the fourth is set on the top of a train.

EFFECTS

The graphics in this game serve their purpose and no more. There's nothing fundamentally wrong with them – they look reasonable, but that's about all. The same goes for the animation: it's perfectly fair, although the horse on level one seems to defy gravity – just watch it jump over anything. To get a fair idea of the sound, use your silliest voice

to babble the wibbliest and most annoying tunes you can think of. And then repeat indefinitely.

VERDICT

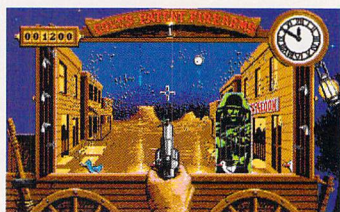
Back to the Future 3 won't amaze anyone. If you're cynical you could say it's simply a collection of pathetic sub-games cobbled together in a desperate attempt to sell the title on the strength of the film. In any case, you find that the parts simply don't add up to make a good whole.

The many different sub-sections are little more than simple reaction tests and turn out to be immensely frustrating. They offer nothing more challenging than jumping, shooting or moving at the right time. The graphics aren't awful, but don't worry – some of the animation makes up for that. In the ravine section in level one, the sprites are tiny, it seems to

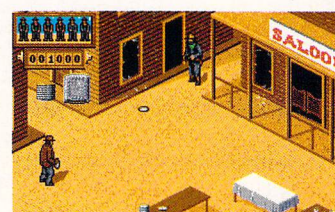
go on forever – and it isn't even very challenging. It would be better if *Back to the Future 3* went back to the past – and stayed there.

ED RICKETTS

GRAPHICS	7
SOUNDTRACK	5
INTELLIGENCE	2
INSTANT APPEAL	8
LONG TERM INTEREST	5
OVERALL	52%



■ In level two you play Marty duck shooting at the fair. Shoot as quickly as you can. The ducks scroll along the bottom of the screen, and the flying geese and cardboard cut-outs of the enemy gang pop up everywhere

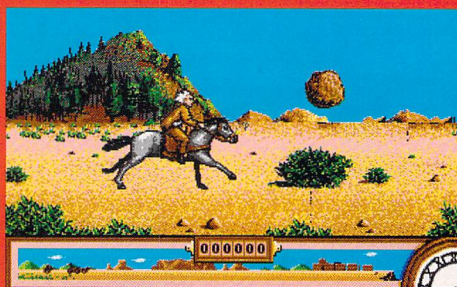


■ In level three, Buford and his gang are picking on Doc. Luckily Marty's a mean frisbee thrower. Armed with a pile of pie trays, he takes them on, slinging trays at the baddies wherever they pop up – and it's not easy

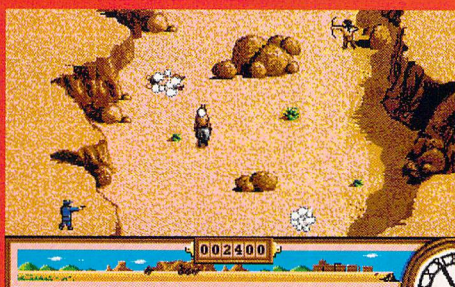
NAG, NAG, NAG, THAT'S ALL YOU EVER DO

In level one you are in charge of a horse over which you have absolutely no control – it moves independently so you can concentrate on keeping Doc

Brown alive. In several of the sub-games you must jump or duck to avoid obstacles and still keep yourself in the saddle of your faithful nag.



■ There you are, Doc Brown on a wild horse, and you're chasing after the runaway buckboard (don't ask) that's carrying your Clara to her certain doom. Unfortunately bits of the wagon keep falling off and bouncing your way. Avoid the debris and save her, or you're never going to see Clara again (sob!)



■ Now you're riding through a ravine and the Cavalry are fighting the Indians. You can shoot the Indians because they're nasty and evil (you've seen Westerns, haven't you?) but you're not supposed to shoot the Cavalry. It doesn't seem to make that much difference though – they die just as easily



■ After the ravine sequence, there's a bit more galloping and then it's back to the overhead view. This time you're riding through Hill Valley while there's a violent bank robbery going on. Get ready for more bullets, more shooting – and more chafing of the inner thigh from too much riding

DOMARK £24.99

'Nam 1965-1975

During the dark years of the Vietnam War, America's preoccupation with "body-counts" showed a final score of 600,000 Vietnamese dead, against 57,939 Americans – and the war still didn't look like it was being won. Vietcong Communist fighters continued to pour down from North Vietnam. It was time to get out. But why were the US there in the first place?

Politics, as always, was the deciding factor.

America was worried that South East Asia would become a large foundation stone for a communist world. And it's the political dimension which makes Domark's 'Nam 1965-1975 so different and so difficult.

You assume the role of the American President and you control the troops in South Vietnam, the use of strategic bombing in the North and the level of funding to be given to the South Vietnamese.

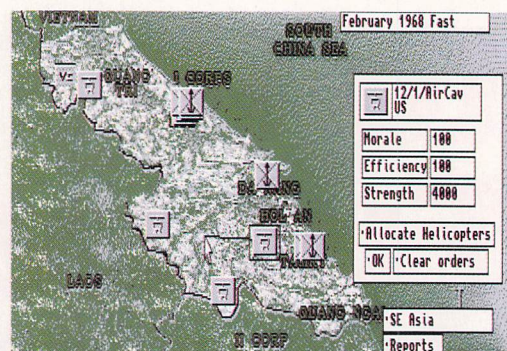
Your aim is to either annihilate all the communist regular army (the NVA) and Viet Cong guerillas, or prevent them gaining control of Saigon for at least ten years. Plus, you must

stay in power, back home. This is less easy than it seems – the American population quickly tired of seeing the endless flow of body-bags returning home. The more troops you commit to the war, the less popular you become. Larger troop numbers also upset the indigenous population, as outrages like the infamous My Lai Massacre occur.

You keep tabs on your popularity by checking the copies of the *New York Times* appearing on your desk. You also get advice (sometimes conflicting) from your PR man (who watches the polls), and the Chairman of the Joint Chiefs of Staff (the military's front-man). It's then up to you to decide which brigades, battalions and divisions get sent to 'Nam, withdrawn home, kitted out with choppers or made to walk.

You control the troops using a variety of maps, which show units as square blocks. The enemy pop into (and more often out of) sight as you attempt to track and destroy them. You can direct your units around using simple mouse-pointing controls and the troops fight as they close in. Each

I Corps, the home of the First Air Cavalry, is where most of the early action takes place in this complex strategic war-game. The VC appear in small numbers at first, but soon they're popping up all over the place



unit's size and power are represented by the size of its icon, and losses have a marked effect on morale and ability.

A large graph keeps you perpetually reminded of the cost of the operation in terms of human life as well as cash. Using this as a guide you can decide the level of the next year's funding and troop involvement – providing Congress still agrees with you, that is!



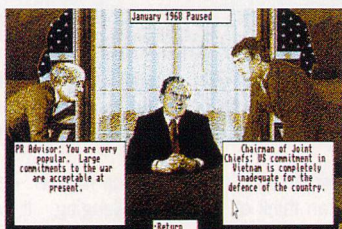
This is what you must prevent for ten years – the first North Vietnamese tank entered the grounds of the Presidential Palace in Saigon on 30 April 1975. How long would Saigon last in your hands?

EFFECTS

While it may be a deeply-involved and highly-detailed strategic wargame, 'Nam 1965-1975 suffers from poor graphics. It's immediately evident that the game is a "port-down" from a machine with different graphics



After LBJ, Richard Nixon (left) became president. Vice-president Spiro Agnew (right) warned Nixon of his poor standing in the eyes of the media. Nixon pulled out the troops in 1972. When would they have left if you were in Nixon's shoes?



Guiding you through danger and into strife are your advisers. They may both agree now, but later their differences cause you a good deal of trouble



Who's in line for action? You decide which units to deploy in the combat zone. Choose your best guys for the job, but leave some for the VC offensives which happen from time to time

ALL THE WAY WITH LBJ

In 1960, President John F Kennedy started pumping aid to the government of South Vietnam, led by Ngo Dinh Diem. In 1963, President Lyndon Baines Johnson (LBJ for short) increased the aid. But most of it just resulted in corruption, until finally a group of South Vietnamese

In 1964, LBJ assumed blanket powers to do what he wished in Vietnam, thanks to the Gulf of Tonkin Resolution – an Act of Congress, caused by an incident off the

coast of North Vietnam. There was a lot of shooting, but even LBJ said "Hell, those dumb stupid sailors were just shooting at flying fish!" Yet it was enough to make the American Congress give all kinds of power to the President. LBJ described the Resolution as "like Grandma's nightshirt – it covered everything!"

'Nam 1965-1975 puts you in power at this time. Think you can handle it?

Presidential popularity is a variable thing, as LBJ found to his cost. Could you do better as President?



As an educational experience, and an eye-opener to the demands of being a Head of State, 'Nam is superb. Few wargames come close to providing this level of insight. Historians are going to love it, militarists will attempt new strategies to alter the outcome, and even confirmed pacifists will understand why Vietnam was such a different and deadly war to be responsible for. Gripping stuff – but prepare to be beaten black and blue many times, by both the enemy and your own side.

NEIL JACKSON

GRAPHICS	5
SOUNDTRACK	3
INTELLIGENCE	9
INSTANT APPEAL	7
LONG TERM INTEREST	9
OVERALL	76%

MIDWINTER II

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MASTERS OF STRATEGY

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RAINBOW ARTS £24.99

Masterblazer

Remember that old 8-bit chestnut *Ballblazer*? Ever wondered what it would be like converted to the ST? Wonder no more, for Rainbow Arts in their wisdom have done that very thing. Now you've got the chance to play that oldie on your ST – except this time it's called *Masterblazer*.

Set on an asteroid far in the future, *Masterblazer* is a game for two players. You can play against your ST or another human opponent – with each player having half of the screen for his display. You play the game on a large pitch bounded by energy walls – try to leave it and you just bounce back.

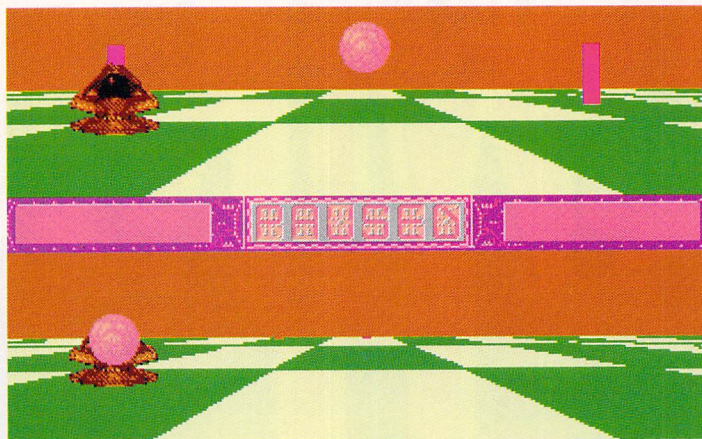
The object of the game is simply to score as many goals as possible. In your Rotofoil, basically a sort of hovering Mini, you must take control of the ball – or Plasmorb – by getting close enough to it so that the forcefield surrounding you can pick it up. This happens automatically. Then you must pelt towards your opponent's goal faster than a very fast thing, stab the Fire button and whack the ball between the goal posts – sorry, Goalbeams. You can't get much simpler than that, can you?

Luckily, you're always facing towards the ball – your Rotofoil snapping round 90 degrees if necessary. You also face towards the goal area whenever you get hold of the ball. Fortunately, you can't damage anything because the forcefields that surround your ship protect you on all sides.

If you do happen to get bored with the normal game, then try racing against an opponent or take time off to visit the museum of *Masterblazer* history.

EFFECTS

It's quite amazing to watch the checkered pitch scrolling at such an incredible speed and yet moving completely smoothly as well. Even so, this is probably because there are so few objects on screen to move: you, your opponent (each of



■ These are the two vehicles – or Rotofoils – that battle it out on the *Masterblazer* pitch. Player One's window is on top, Player Two's below and you can just make out the goalposts in the background

you displayed only in the other's half of the screen) and the ball.

The impression of speed is sustained well throughout the game – particularly when you're racing. The most impressive graphics are those of your vehicles, but you don't get to see them much – you're too busy trying to avoid your opponent.

Sound is fine as far as it goes – a couple of tunes at the start of a

round and when you win. Apart from that, there are only "shoosh" noises during the game. Overall, then, the effects are more functional than impressive.

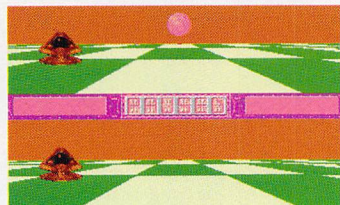
VERDICT

You can become totally involved in *Masterblazer* because the illusion of speed is excellent. What's more, the difficulty level isn't so high that you give up after two goes. If screens

full of icons and huge manuals appeal to you, don't expect to like this – it's not that sort of game. Long-term appeal is limited, but for a quick half-hour session *Masterblazer* keeps you more than happy.

ED RICKETTS

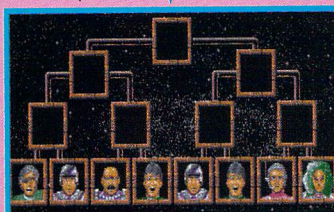
GRAPHICS	7
SOUNDTRACK	6
INTELLIGENCE	5
INSTANT APPEAL	8
LONG TERM INTEREST	7
OVERALL	74%



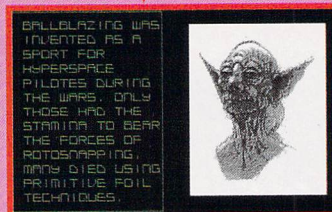
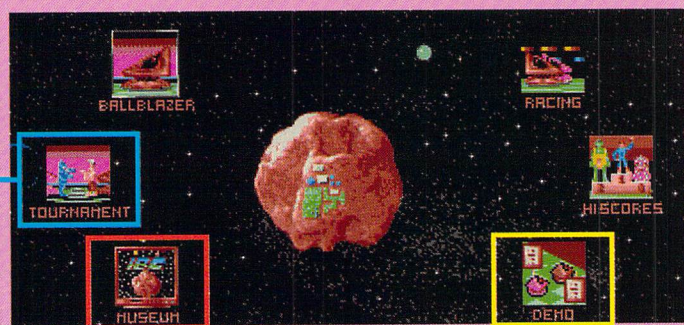
■ Take possession of the ball and it's held by your forcefield straight in front of you, although it does swing around somewhat when you move. Just make sure you get to the goal before the other player gets to you!

YES, BUT JUST WHAT ARE MY OPTIONS?

■ As well as being able to reach the main game from the title screen, you can take your choice of several other routes to various exciting but not necessarily very useful places.



The tournament mode enables up to eight players to compete in a knockout competition. Each player can enter a name and is assigned an individual portrait of his own champion



The museum gives you some background on the history of the game and the foolhardy folk who risked life and tentacle to bring you the sport you've come to know and love (possibly)



The demo mode is a useful tutorial feature that takes you through a 3D representation of the game using simple graphics and text boxes, which helps to explain the basics of gameplay

PREDATOR 2™



... HE'S IN TOWN WITH A FEW DAYS TO KILL

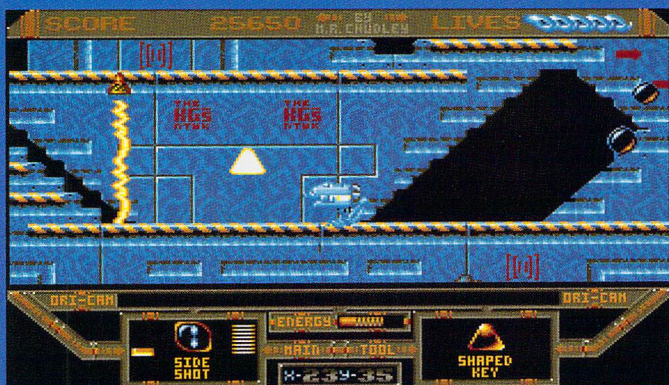
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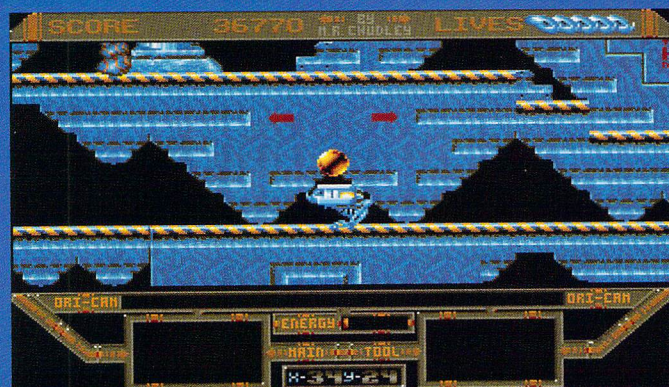
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THE KEY TO YOUR PROBLEM

Putting the right key into the right slot has one of a variety of effects. You can usually tell what's going to happen – if there's a wall blocking your way nearby for instance – but sometimes the keys affect things that aren't immediately apparent. However, they're never actually superfluous. You always need to fill every slot to finish a level.



■ Insert a key and you often find that a nearby wall disintegrates (or disappears in the case of this energy wall – the shimmering line at the left), enabling you to access the rest of the level...



■ But occasionally, odd and unexpected things happen – in this instance, for example, the section of floor on the far left (the bit sitting on those squat little pillars) appears out of nowhere



■ Level three is set in this Gothic Notre Dame type locale. Some keys here cause the gargoyles to spew chains from their mouths. Not so useful? In fact you need to climb up them to get anywhere

PSYGNOSIS £25.99

The Killing game show



The £64,000 Question not expensive enough? Price definitely not right? Why not apply for the last word in game shows? You're bound to get on – they've got plenty of vacancies after every show... Ed Ricketts gets starstruck

Game shows are becoming ever more tacky and ridiculous in their quest for the ultimate crowd-pulling spectacle. We've had *Endurance*, the Japanese program where contestants gladly sit

– *Blind Date*. But *The Killing Game Show* from Psygnosis takes the genre to its inevitable peak – a game show where your own life is at stake.

In the future, life is boring and viewers need something even more



■ Play for your life as you become a contestant in *The Killing Game Show*. The exit awaits – all that's between you and it are HALFs (Hostile Artificial Life Forms), DOLL (Deadly to Organic Life Liquid) and several hundred puzzles. *Crackerjack* was never like this...

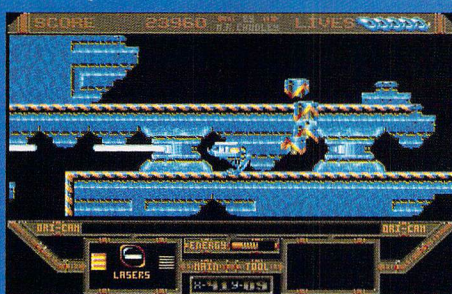
in a vat of acid to win a table lamp. We've seen *The Price is Right* induce ordinary people into a consumerist frenzy beyond all bounds of decency and we've even had to sit through – sorry, turn off

outrageous to keep them watching the TV. Thus *The Killing Game Show* is born – 16 Pits of Death constructed on eight satellite moons. This is the place where the contestants must fight for their lives. They

PUT THE "K" IN KILLING

You begin the game with a single-shot gun that wouldn't even make a fly flinch. Fortunately there are other weapons around, hidden in the caskets (if you can find them). Each one has only a limited number of rounds, though, so use them carefully – you're going to need certain weapons at specific points in the course of the game.

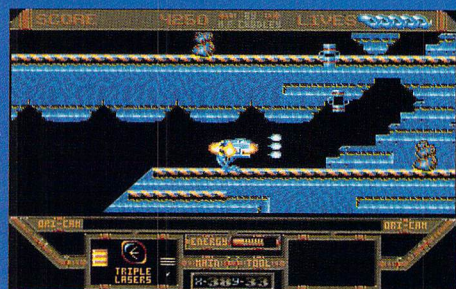
Take a look at the range of weaponry on offer and see which one takes your fancy. They all have advantages and disadvantages – the triple shot, for instance, wipes out many aliens at once, but hasn't got the power of the laser.



■ The laser blasts out a huge sweep of power that demolishes several nasties simultaneously. However, it's not so useful for dealing with enemies above or below you, so you can't rely on it for too long



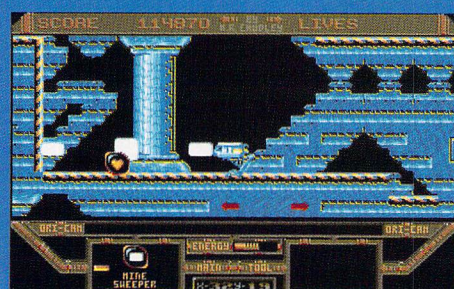
■ Side shots mean you can fire straight up and down as well as ahead – all at the same time. There are plenty of static creatures lying about which you can safely destroy from the level below by using this weapon



■ The triple shot is the standby weapon that's always useful. It fires three bullets at once – at high, middle and low level. It deals easily with all sorts of attackers



■ Missiles provide long-range shots that can be vital in certain situations. They're also a lot more powerful than your run-of-the-mill bullet. Even so, they only fire straight ahead



■ Mine sweepers are similar to lasers, but they're larger and more likely to hit a HALF – nice while they last but you get only a limited arsenal so use them sparingly

are lawbreakers who have undergone surgery and are now more machine than human.

The only thing these players have to do is escape the Pits – but this is not as easy as it sounds. The Pits are inhabited by specially created HALFs (Hostile Artificial Life Forms) who are designed to stop the player at all costs. As if this isn't enough, DOLL (Deadly to Organic Life Liquid) is constantly pumped into the Pit. It rises steadily over the whole area and just one touch means you're a goner.

Each level is split into two halves and consists of many interlinked platforms, walls, dead ends and traps. Taking the role of one lucky contestant, you begin at the bottom and must eventually find a route to the exit somewhere at the top. You do this by jumping, blasting, doubling back and exploring every single cranny.

The weapon you begin with is adequate but not the best. Luckily, there are heavily camouflaged caskets scattered around the levels and you can shoot these to reveal extra tokens. The tokens give you a variety of powers: better weapons, advice (helpful and otherwise), water freezers to halt

the relentless advance of the DOLL for a short time, or keys. Keys are important objects to pick up because sooner or later you're sure to come across a slot that needs one.

When it all goes horribly wrong you're presented with a video replay of your last life – fortunately you can fast forward it if it proves too embarrassing – and the really great thing is that you can break in at any time and carry on playing from that point.

"A complex platform game, a good old-fashioned blast, even an arcade adventure"

if it had been accompanied by sound. Visuals in the game are well catered for – sprites, although quite small, are excellently animated, particularly the HALFs. The action also takes place against colourful backdrops that change with each level.

The explosions are very satisfying as well. One superb touch is the reflection in the DOLL – it's extremely convincing. There are no problems with the four-way screen

scrolling either. A hefty chunk of sampled music greets you on the attract screens, while in the game itself you can select between music or effects. Effects are better on the whole, consisting of meaty explosions and manic gunfire noises.

VERDICT

The Killing Game Show is an excellent implementation of what

could have been just another shoot-'em-up. It can be many different things to different people – a good old-fashioned blast, a complex platform game, even an arcade adventure. The game is hard enough to pose a challenge – some of the puzzles really do take some figuring out – yet it's easy enough to get going quickly. Without the replay feature you'd never get off level one, but use it well and you get the feeling that you might just be able to complete the game.

Though it has some innovative touches, it's hardly likely to win the *Populous* Award for Originality. Even so, *The Killing Game Show* should keep you playing until the real thing appears on TV – probably around next September...

ED RICKETTS

GRAPHICS	9
SOUNDTRACK	7
INTELLIGENCE	8
INSTANT APPEAL	9
LONG TERM INTEREST	9
OVERALL	90%



■ Shoot a whole wave of the HALFs and you get to see this little winged heart flying upwards. Catch it and you're rewarded with a small amount of energy – not much, but what you get can sometimes be a life saver

EFFECTS

The digitised intro sequence before the game starts is very impressive, though it could have been even more so

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Predator

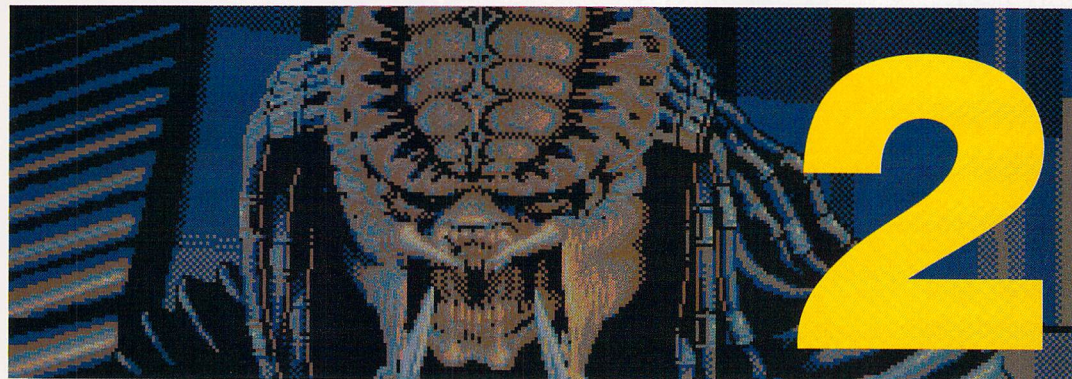


■ Occasionally you can see a weapon lying about. If it happens to be better model than the one you're currently using, it's a good idea to pick it up – and quickly. All you have to do is shoot it and it's added to your weaponry

The Predator, an extremely unfriendly alien in the film of the same name, enjoyed hunting humans for fun. Now you can watch the sequel, *Predator 2*, in which loads of extremely unfriendly aliens hunt humans for fun. Not only that, you can play the game too.

It's 1997 AD Los Angeles, it's the hottest summer on record, and rival Jamaican and Columbian drug gangs are fighting the police for control of the streets. You play Detective Lieutenant Mike Harrigan and he's determined to see justice prevail in the drug war. Just to make things worse you've got the Predator to deal with too. Bet you wish you were on traffic duty.

The game is shown in first-person perspective – your character displayed in wire-frame graphics in the middle of the screen. You aim your gun by moving the sight around the screen with the mouse or joystick. Game objectives are simple: shoot the drug pushers, avoid the innocent bystanders and TV interviewers,



collect the ammo and weapons lying on the ground and try not to get hit too many times. The levels get more difficult and the pushers harder to kill as you progress.

From time to time you notice part of the background wavering

slightly. This is actually the Predator himself in his light-refracting disguise. He uses his laser sights to focus on a gang member and then rips his head from his shoulders. What a guy to have at parties!

the Predator – anything is preferable to the horrible warbly music.

VERDICT

It's very hard not to compare *Predator 2* to *Operation Wolf* because the two games are virtually identical. The graphics of *Predator 2* are slightly better, but then that's to be expected with a newer game. Apart from that, there's little to choose between them. If you enjoyed *Wolf* you're going to like this, but it's not likely to stun you. Play it for what it is – just don't expect miracles.

ED RICKETTS

EFFECTS

Intro sequences seem to be the norm nowadays for all but the simplest of games, and *Predator 2* is no exception – sampled sound and detailed graphics provide an attractive scene-setter. In-game effects are slightly less impressive, but on the whole the graphics are serviceable and the animation is fine. The sampled sound effects are good too, particularly the scream when you hit



■ He's back and he's not overly happy with the situation. Son of Predator, *Revenge of the Son of Predator*, The Predator Strikes Back – again? Nope. *Predator 2* is just an *Operation Wolf*-style blast-'em-up over four levels

GRAPHICS	7
SOUNDTRACK	7
INTELLIGENCE	3
INSTANT APPEAL	9
LONG TERM INTEREST	6
OVERALL	67%

ALL THIS AND THE PREDATOR TOO

Each level is set in a different locale and split into two halves. The first half is a horizontally-scrolling section with your character remaining in the middle



■ Level one is located on the streets. You're involved in a firefight between the police and the drug gang, but your real task is to get to the Drug Lords' HQ and apprehend the leader. Note the badge to the left – every time you shoot a civilian, it flashes. If you shoot too many of them, then the game is over



■ You reach the penthouse apartment in level two only to find a number of the gang have been killed. You're only going to discover who did it by getting to the biggest Columbian drug lord – Ramon Vega – before the rival gang or the Predator reach him. Note the geezer firing at you from the trolley at the back



■ The Los Angeles subway is the setting for the third level. (All right, so there isn't a subway in Los Angeles, but they're building one right now.) The Predator makes his debut on this level. See him in the background? He's just ripped out that bloke's head and spinal cord. What a really nice guy!



■ Finally you reach the grim slaughterhouse the Predator uses as his base. The FBI men are those figures in the middle, running around helplessly and stupidly getting in the way of your bullets. Mr P himself is on the right, and at the back – oh sorry, didn't I tell you there's more than one Predator?

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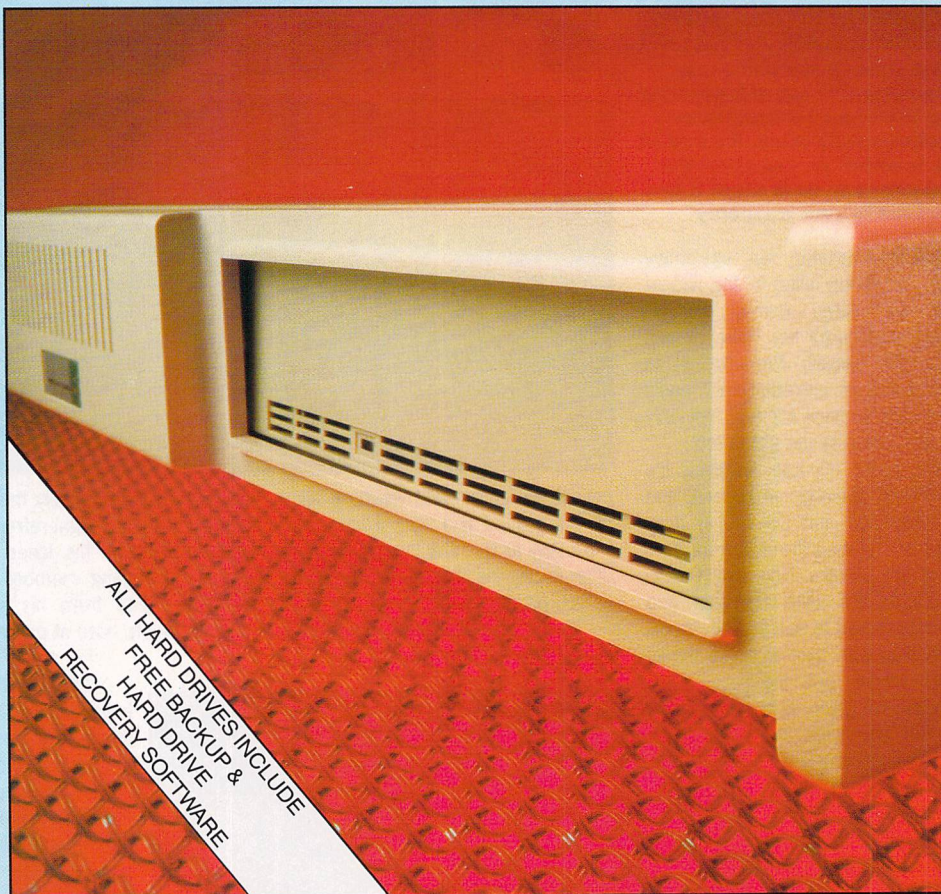
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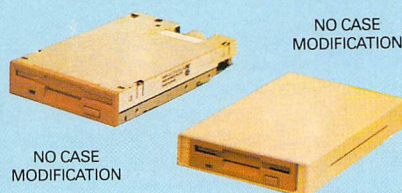
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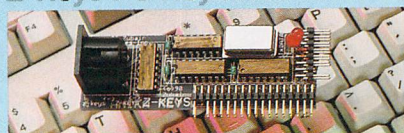
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Chuck Rock



Anyone who is sorely missing the Flintstones should warm to *Chuck Rock*. Set in the Stone Age, it features Chuck as a slob of a caveman whose wife has been kidnapped by Gary Gritter, the local lounge lizard. Rescue is obviously called for and this is where you come in.

The game is a fairly standard platform romp across many prehistoric levels. There are also some watery areas that you can cross only by swimming. Naturally, the going isn't easy – the local wildlife go out of their way to harm you.

Fortunately, you can use the rocks lying around either to swat the



■ Join *Chuck Rock* as he tries to rescue his dearest one from the clutches of the slimy and nasty Gary Gritter. More rocks than Tiffany's in this straightforward platform game

monsters or as stepping stones to help you access otherwise unreachable areas. You can't jump very far while carrying one, though, so some forward planning is necessary.

Other forms of defence are the belly-butt and the sharp kick. These manoeuvres help you to sort out most critters. You can also collect extra energy and bonus objects which improve your score.

EFFECTS

The sprites in *Chuck Rock* are superb. Not only is the animation excellent but the graphics are wonderfully humorous and almost cartoon-like in design. Most of the creatures have such a deadpan look

you can't help feeling they'd rather be somewhere else. Chuck drags his knuckles convincingly too.

There are other unexpected touches. Belly-butt the red elephants for instance and each splits into two smaller versions of itself. *Chuck Rock* also has a really good opening sequence – even though it borrows heavily from the Flintstones.

Unfortunately the sound doesn't match the visuals in quality. It's just normal soundchip spot effects. Some sampled thuds and grunts could have made a real difference.

VERDICT

Chuck Rock is a straightforward platform game lifted above the crowd by its humorous and enjoyable graphics and puzzles. Long-term interest is slightly in doubt, though, because when you die you must start right back at the first level – there are no ways of restarting where you left off. Because of this, and because the game offers nothing new, it isn't quite a *FORMAT* Gold. It's still very enjoyable, if only for the graphics, but have a good look before buying.

ED RICKETTS

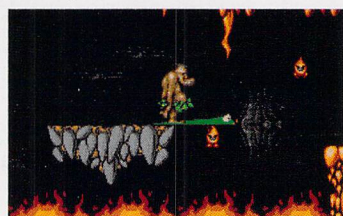
ALL ABOARD THE SKYLARK



■ These birds are another kind of helpful creature. Note the small arrow which appears the first time you see them. A hint? Give the bird a belly-butt and see...



■ He very kindly picks you up and carries you over to the unreachable platform on the right. Most of the puzzles are like this – nothing to keep you up until the early hours



■ Later levels feature different graphics and puzzles. You can't get across that fiery chasm? Just belly-butt that curled-up snake to make him uncurl and provide you with a handy bridge

GRAPHICS	8
SOUNDTRACK	6
INTELLIGENCE	6
INSTANT APPEAL	9
LONG TERM INTEREST	7
OVERALL	82%

WHAT TIME IS THE NEXT DIPLODOCUS?

Although you soon discover that most of the creatures in *Chuck Rock* have but one purpose – killing, destroying and maiming for the most part – some

do turn out to be extremely useful. Indeed, you won't get very far at all in your quest to rescue your missus without the help of some of the animals.



■ The first part of level one is dead easy. A short way in and you must break an egg. This releases that bird who's got the shell on its head. Avoid it at all costs – it's bad...



■ Here you must use the rocks to jump over the gook lurking at the bottom. You then collect the heart to the right for extra energy but find yourself at a dead end...



■ The only thing for it is to jump onto this diplodocus' back and let him take you across the poisonous stuff in the pit. It's the only way to travel – and it's free too

You have to be pretty brave to release a standard text adventure nowadays, especially with games like *The Secret of Monkey Island* about. But that's what Palace are doing with *Demoniak*.

Demoniak is the brainchild of Alan Grant, author of comic heroes like Judge Dredd. The plot concerns the efforts of four superheroes who try to prevent *Demoniak* from breaking through to our universe. The team consists of Johnny Sirius, a hybrid; Kyra Brand, a pyrokinetic; Madlok the wizard and Sondra Houdini, a psychic who can read other characters' minds.

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Demoniak

scientist Doc Cortex. At any point you can become other characters – even enemies or people on another planet – and view the world through their eyes.

Demoniak is the first game to utilise the Pure Fiction system, Palace's much-touted new adventure framework. This claims to create a whole gameworld in which conver-

sations, fights and so on are taking place no matter what you're doing. The artificially intelligent characters interact with you and each other, both on and off the screen.

EFFECTS

There's a good graphic opening sequence, and at certain points you're presented with the odd full-screen picture, but there aren't many of them and the rest of the time you're staring at a familiar adventure text screen. The graphic screens themselves are fairly well drawn but nothing particularly special. Sound is only present during the opening sequence, except for a nice clicking sound every time you press a key.

VERDICT

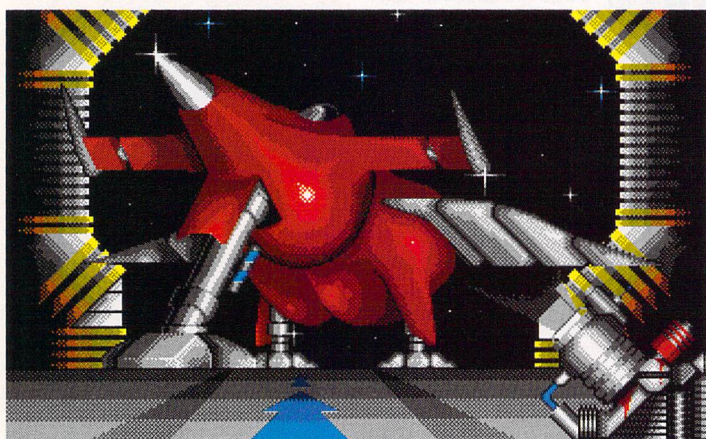
If there's any justice in the world this game should shift in droves, but somehow it's unlikely. The plot is incredibly rich, the characters weird, and having Alan Grant write the story has certainly paid dividends. The Pure Fiction system works well too. Even so, it's hard to see quite why



■ **A text-only adventure? Aargh! Yes, but *Demoniak* is a damn fine example of a dying breed. And stop moaning, there are a couple of pictures actually**

it's being hyped so heavily. The public just don't seem to be attracted to text adventures any more, particularly complex and innovative ones. Only imaginative punters need apply.

ED RICKETTS



■ **Meet Proteus, the living spacecraft with the brain of an ex-jewel thief who chose to be wired up to a hull rather than face the law...**

GRAPHICS	5
SOUNDTRACK	2
INTELLIGENCE	9
INSTANT APPEAL	7
LONG TERM INTEREST	9
OVERALL	80%

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Quadrel

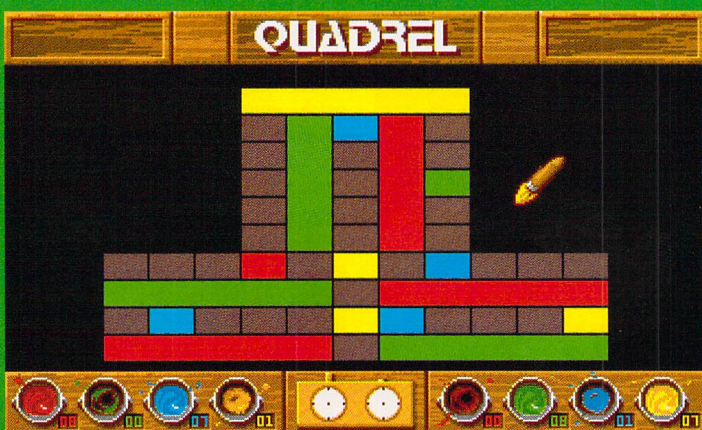
Truly great games are those with simple rules, it says on the box, so *Quadrel* certainly could be a stonker. It relies on the very simple theorem that says you can fill any type of map with four different colours without having two areas of the same colour adjacent to each other.

Quadrel is a pleasant puzzle game based on this theorem. You play on one of a number of areas, with a range of options – solitaire mode against the clock, imposed solitaire mode where your ST chooses which space you must fill next, and a two-player mode against the ST or another person. Each player takes a turn to fill an

area on-screen with any one of the four available colours. There are no restrictions except that you can't place a colour where it touches another area of the same colour. As the spaces fill up, it becomes more and more difficult to apply the colours, until eventually it's impossible to add any more and one player wins. Help is available from the ST in one-player mode but there's a time penalty for using it.

EFFECTS

Puzzle games aren't exactly renowned for their fabulous graphics, but then they don't need 'em. *Quadrel's* displays are functional,



■ ***Quadrel* is an excellent puzzle game where you can test the Four Colour Theorem the interesting way. The game's rules might make a baby scoff, but try to beat it and you're going to be at it for hours**

colourful and not too fussy. Sound is actually rather good – sampled New Age-style music which calms your addled nerves when you've cocked it up for the umpteenth time.

VERDICT

As puzzle games go *Quadrel* is a goodie. It's immensely simple to learn but offers an infinite capacity for experimentation. There are only two real gripes: the range of playing areas is limited and there's no way to design your own. The price is a little

excessive as well – £7.99 would have been perfect. As it is, buy it if you've got so much dosh that it's coming out your ears.

ED RICKETTS

GRAPHICS	6
SOUNDTRACK	8
INTELLIGENCE	9
INSTANT APPEAL	9
LONG TERM INTEREST	8
OVERALL	74%

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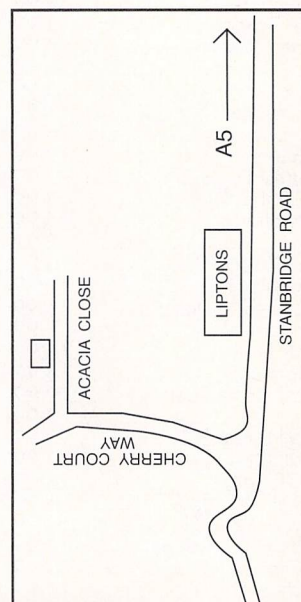
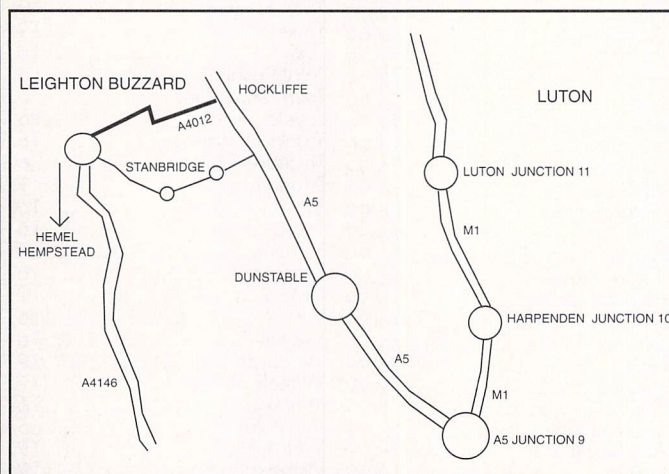
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3D POOL

Mirror Image - £9.99

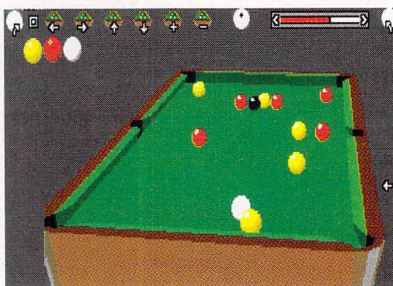
Pool is always going to be a difficult game to computerise, but Mirrorsoft come up with the goods. A unique and very intuitive control method makes the game enjoyable to play against either your ST or a friend.

You change the angle of your shot by actually moving the table around, and you accomplish this by holding down the left mouse button and swinging the mouse around. You can add top and backspin to the ball by moving the table up and down, and you choose the strength of your shot using the power bar.

There are four different play modes: tournament, two-player, practice and trick play. Tournament mode enables you to compete against ST-controlled opponents, who get tougher the

closer you get to the final. The practice screen gives you the chance to perfect some set shots such as a cannon, a guard, a chain or a pea-shooter. The trick shot section enables you to use the built-in trick shot editor to create your own speciality shots.

Gameplay is fast and comfortable. The ST has some very tricky players stored away, so it's probably best to get some serious practice in before attempting to tackle them. The two-player game is a giggle, and you could almost



■ "Excuse me, mate, I don't care if the landlord just rang the bell for last orders. There's a kebab riding on this frame." 3D Pool - better than being there

imagine you're stood in a pub - things get very competitive.

Graphically, 3D Pool is excellent. The swivel action on the table is smooth and fast, and this makes

selecting shots very easy. Sound is minimal, but then what do you want from pool? At ten quid this game is almost as good value as Mirror Image's other budget release, *Carrier Command* (reviewed overleaf).

STF Rating - 87%

TEST DRIVE 2: THE ACCESSORIES

Accolade - £11.99 Each

Hot on the heels of this popular car racing game comes a whole wodge of add-on scenery disks and super cars designed to complement the original package.

The Super Cars: Car Disk

This gives you the five fastest cars in the world to whizz around in. The 88 Lotus Turbo Esprit is a 2.2 litre turbo-charged motor with superb road handling. It isn't the quickest but it can corner far better than any other car.

The 88 Lamborghini Countach 5000S has got to be the best-looking car in the world. Four valves per cylinder and a V-12 engine can

that puts most light aeroplanes to shame - 211mph. With 469 bhp under your belt you have to be careful with the accelerator or you could end up breaking the light speed barrier.

An American car is your final choice. The 89 Corvette ZR1 can travel at 185mph. The engine is an all aluminium 32 valve V-8 monster and strong enough to power a juggernaut.

It's difficult to rate this pack. If you're seriously into super-cars and *Test Drive 2* left you crying out for more, then check it out. All the cars perform as they do in real life - and let's face it, this is the only chance you're ever going to get to drive cars this good.

STF Rating - 70%

inch engine and a mind numbing top end of 152 mph. If you enjoy travelling from 0-60 in 5.6 seconds, then check it out.

Again this disk is going to appeal more to car fanatics than your average gameplaying ST owner. Fans of big-engined, gas-guzzling American motors are going to love it.

STF Rating - 70%

Test Drive 2: The Scenery Disks

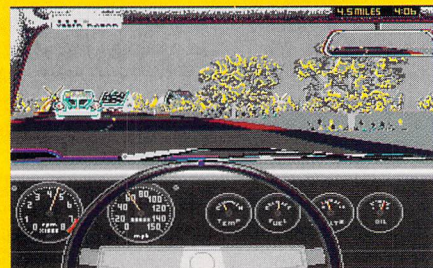
These two scenery disks cover California and Europe in two separate packs, with each one being made up of five different sections. The California scenery disk starts you off on the Oregon border and takes you down the redwood highway to Eureka.

Then it's up into the mountains of Rockport with extreme falls to the side. Stage Three takes you down into San Francisco, past Santa Cruz and into Carmel. You then go through Santa Barbara and the redwoods of Big Sur in Stage Four. The home stretch is off to the Mexico border, through Santa Monica and past Del Mar and La Jolla beaches.

The European Scenery disks give you a chance to enjoy some decent views. Visit five countries, complete with clichéd sights. Holland has windmills; Germany the Autobahn; Switzerland steep rises and harsh drops; Italy the Coliseum; France the Riviera, and so on.

It's all pretty bland stuff. Again, if you're desperately into *Test Drive 2*, then check it out. Bear in mind that for the cost of this disk you could just as easily buy a ferry ticket to Europe and drive the roads in real life.

STF Rating - 63%



■ Weird or what? Here you're driving a Dodge Charger Daytona from the Super Cars add-on disk through windmill-packed Holland - somewhat akin to driving round the M25 in a Lear-jet

send you to a top speed of 179mph, but who cares how fast you're going when your car looks this good!

The Ferrari Testarossa has gob-smacking looks and a top speed of 185mph. It can accelerate from 0-60 in 5.3 seconds, so make sure you've got your flying helmet on. In the same league is the 911 RUF, which has a top speed

The Super Cars: The Muscle Cars

Five American cars make an appearance on this disk. The youngest of the crop was built in 1969, but don't let that fool you. None of them is exactly what you'd call tame.

The 1963 Corvette Sting Ray can travel at 142 mph and can take you from 0-60 in just 5.9 seconds. This means you can clear a quarter of a mile in a mere 16.9 seconds.

The 1968 Mustang Shelby GT500 Cobra has a top speed of 138 mph and a 335 horse power engine. This can take you from 0-60 miles per hour in 6.9 seconds and eats up tarmac like a true petrol guzzler.

Pontiac's 1967 GTO is a 360 horse power car nicknamed the Goat. With a top speed of 137 mph it can still blow away most super-cars.

Dodge's Charger Daytona hit the streets in 1969 but with a 425 horse power engine it can make a top speed of some 144 mph.

Only 69 Cioi 9560 ZL-1 Camaros were ever built. It has a full race aluminium 427 cubic



■ **Actually, this isn't Hammerfist, the coin-op hitter – it's Metalisis. She's much quicker than her male alter-hologram and therefore a lot more use when there's three security droids aiming to relocate your arms**

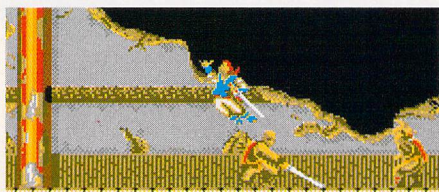
COIN OPS HITS 2

US Gold – £29.99

Most software houses use the summer months to re-release old games, and *Coin Op Hits 2* is the latest in this line. *Dynasty Wars* is an average beat-'em-up with bland graphics and chronic gameplay. Basically hundreds of tiny oriental chaps run on-screen and you have to chop them down with your large sword. Sprite detection and movement are lousy and the sound consists of a few warbling chip noises.

Ninja Spirit is another oriental slice/dice-'em-up. Do battle with Ninjas, Samurais, giant Ninjas, kitemen, wolves and Musketeers. Gameplay is very difficult and the graphics small but attractively designed. Certainly a challenge.

Ghouls 'n' Ghosts runs against the flavour of the pack – it's actually a very good game. You



■ **Nope, *Ninja Spirit* isn't a new kind of sake. It's a game of bobbing Ninjas and pike thrusting Kitemen. I think I'd prefer the new kind of sake, actually...**

control a knight who's on a crusade to rescue a princess. Legions of nasty dragons, skeletons and bullet-spitting plants are out to ruin your day. An excellent game with long lasting appeal.

Hammerfist is a futuristic shoot-'em-up set in the year 2215. You control two holograms, Hammerfist and Metalisis, and you must switch between these two characters to do battle with the security droids and guards. You must ultimately wipe out a big central computer. Gameplay is clichéd, though, and thoroughly cheesy.

Last and definitely least comes *Vigilante*, a Kung Fu game set in New York in 1994. By this date, apparently, the city is anarchic. The game follows a hackneyed theme, with hackneyed graphics and sound. Little to recommend here.

STF Rating – 51%

INTERNATIONAL ICE HOCKEY

Impulze – £24.99

Another sports game gets the ST treatment – this time brutal Ice Hockey, played with American rules. The game is a standard one or two-player simulator with a slanted angle viewpoint.

At the start of the game a menu enables you to set play options. When you play against your ST, you can choose from three skill levels,

corresponding to the three different leagues you can play in. You can also set how fast the players turn, as well as play the three periods of the game for either two, five or the full 20 minutes.

You can customise your own team and then save them to disk for later use. You can alter the way you control your player by switching between different modes. A strategy section enables you to set the formation of the team.

The graphics in *Ice Hockey* are the wrong side of bland. The very peculiar viewpoint makes it extremely difficult to see what's happening around the pitch. Scrolling is smooth, but the players tend to perform peculiar movements when there's a lot happening. There are a few nice touches which look very "Cinema-



■ **An American commentator once said, "I went to a fight and an Ice Hockey match broke out." See what he means in the brilliantly named *International Ice Hockey***

ware"-like – the commentator at the beginning of the match for instance.

Gameplay is solid but it's difficult to get excited about what's happening because of the difficulty in getting any kind of fluid movement with the players. Your score owes more to luck than skill and this definitely isn't what you want from a sports simulator. The game looks and plays like a bad budget title.

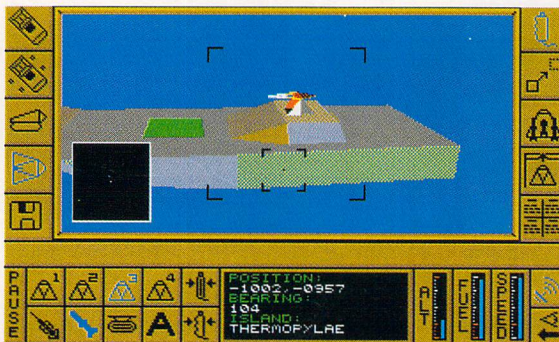
STF Rating – 38%

CARRIER COMMAND

Mirror Image – £9.99

Few games of any type can lay claim to the kind of reviews which greeted *Carrier Command* on its release. It broke new ground in graphics and gameplay, completely leaving the rest of the field behind.

A series of newly formed volcanic islands houses considerable amounts of tappable energy which could prove very useful to a world gripped by a massive energy crisis. The ships Omega and Epsilon are designed to tap this



■ **The good ship ACC Epsilon in *Carrier Command* is armed to the teeth with weaponry that would put the starship *Enterprise* to shame – but there aren't any Klingons off the starboard bow, just a jealous island**

TEN TIMES YOU REALLY WISH YOU HAD YOUR ST

1. The super laser check-out at your local Hyper-mega-market shrugs off its mortal coil, just as you are about to plonk the last of 250 items on the minimalist conveyer belt
2. The vicar forgets the entire ceremony at your best friend's wedding – on the very weekend you bought a Bible database
3. On your way to a date with the hottest chick/guy you've ever met in your life, the computerised traffic lights break down, creating a 16 mile tailback
4. One day, while delivering a pizza to Real World studios, you overhear Peter Gabriel complaining that he just can't think of a way to link his sequencers, synths, drum machine and mixing desk together
5. An alien organism called Gahimh Akmr lands on your eyelid and offers you a dustbin full of gold if you can lend him for just a couple of hours the most advanced and successful home computer around
6. The sexy and ever-so-cute barman/maid at your local hostelry explains to you in confidence that they're awful at adding up the prices of beers, spirits, pork scratchings and those funny little crumbly Mexican things which come in impenetrable packets
7. You overhear the producer of the ITV Chart Show complaining that their graphics are twee, out of date, bland and in dire need of a quite extensive spruce up
8. The weekend you lend your ST to your kid brother/sister, the fashion model next door nips round with a sudden uncontrollable urge for a blast of *Xenon 2*
9. While you're at the local Twilite Zone comic shop, Albert Einstein drops through a worm hole in the space/time continuum and reveals that with the use of a sophisticated number crunching machine he could perfect a method for light speed travel in a couple of hours and still get back in time for tea
10. Your kid brother/sister nicks the last five quid out of your Nat West piggy bank and there's nothing at hand to clonk him/her with

energy, but a spy organisation have taken control of one of the boats and they're threatening to destroy the islands unless they get a ransom of 15 billion dollars.

This is where you come in. You take control of the good ship ACC Epsilon and must do battle with the rogue computer controlled ship ACC Omega. From the safety of your carrier, you've got to colonise the islands to supply your ship and then destroy the rogue carrier.

Your boat comes equipped with highly sophisticated self-repairing circuitry and some vicious armaments. It's also got a full complement of remotely piloted planes (called Mantas) and amphibious tanks (called Walruses).

Carrier Command is absolutely stunning in the graphics department. You can view the game world from either your carrier, a Manta or a Walrus – but more than that, you can watch your Mantas from your Walruses or indeed in any combination. One of the best sequences enables you to view a Walrus leaving the helm from the carrier's view-

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BG.34	Assassin; Excellent Graphic adventure written with STAC.
BG.43	Wizards Tower; Superb Text and graphics adventure written with STAC
BG.44	Zoltar II; Super Shoot-Em-Up game with digitised sounds!
BG.45	Orbit II; Superior Arkanoid copy, originally free with STOS, now compiled and with digitised sounds!
BG.47	Vegas Gambler; Professional Casino style games: Roulette, Poker, Blackjack and Slot Machine!
BG.55	Froggy; Good version of the old classic road crossing game. Plus: Caves of Rigel; Maze type arcade game.
BG.56	Cribbage, Checkers, Joust, Target, Yachtzee...
BG.57	Dungeon Master - NEW Dungeon, created using Dungeon master editor! Original Dungeon Master game required!
BG.58	Soko; Original addictive 50 level puzzle game. ST Format ****
BG.59	Bubble Trouble; Addictive and smooth Pacman variation with sampled sound. Jumpster; Q-Bert style game.
BG.62	Millipede; very good version of the old arcade classic.
BG.64	STumped; STOS produced tactical Cricket game. STOS not needed to run!
BG.65	Joust; Arcade game version. Space War; Space strategy game.
MG.01	BOLQ; Arkanoid style game, but different, paddle can move all over screen, works in colour and mono!
MG.04	Bumper Jack; STOS produced Platform game. Plus Yatzy; Dice game.
MG.05	Mars Maze; another excellent STOS produced platform game.
MG.08	Star Trek - Next Generation; Encounter at Arcturus: Battle the Ferengi in this strategy game with digitised sound samples. (NOT STE)

BU. UTILITIES

BU.01	Neochrome; Professional quality drawing program plus slideshow.
BU.05	Communications; Kermit etc. Use bulletin boards, transfer files.
BU.07	STWriter Elite; High quality Word Processor. Fully documented!
BU.29	Label printing accessories; Address, disk and cassette labels.
BU.34	B-Boot; Enables booting from drive B, address book, database etc.
BU.36	Assistant Chef; Excellent recipe database for the cooks...
BU.37	Pools; Expert results predictor includes large match database!
BU.39	Fractal Zoom; comprehensive fractal generation program
BU.42	GEM fonts; 60+ fonts for Hi-res screen and Epson printers
BU.44	.IMG utilities, convert Degas, Neo, Tiny etc. to .IMG format!
BU.45	Planetarium; Astronomy, view the stars from anywhere in the world.
BU.46	Mouse Pointer; design your own pointer! 50 shapes included! etc...
BU.47	Eplan; CAD program for design of electrical circuits, documentation on disk. Print out finished circuits!
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BU.50	GEM Font Master; super font editing program, use 3 resolutions!
BU.53	Opus spreadsheet - charting program - Quality shareware! (D/S)
BU.54	Amateur Radio utilities; Morse tutor, Grayline calculator etc.
BU.56	Your second manual to the Atari ST, invaluable reference book...
BU.57	ANI-ST (formerly Aegis Animator costing £79.90!) + GFA Raytrace demo!
BU.58	FSelect; alternative file selector. Desk Manager; Choose Auto programs & accessories etc...
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BU.67	Cardfile; Simple Name and Address database with search facility VDU v2.4; Virus Detection Utility...
BU.68	Magnewriter; ST Writer version with larger text! Ideal for use on TV for children or poor eyesight!
BU.72	STE Boot disk; Enables STE to boot up in Medium resolution! etc...
MU.05	Sheet v2.0; powerful spreadsheet with documentation and tutorial, Lotus compatible, 1280 rows x 280 columns!
MU.07	Gemini; superb NeoDesk style desktop replacement! German origin.
MU.10	BStat; sophisticated graphing and statistical analysis program.
MU.12	Hard disk utilities; Invaluable aid to hard disk users...
MU.13	F-Copy 3; Superb copier, will even backup some copy protected disks. Features: Fast Format, Virus Check, Scan Disk, Multiple Copy, Verify...

BE. EDUCATIONAL

BE.01	Things to do with numbers; full working demo, Kid Publisher, Alphafit, Stage II; drawing program, Gilbert...
BE.02	Kidprogs; Kids Graph, Kids Grid, Kids Music, Kids Piano, Kids Notes...
BE.03	Kidprogs; Kid Potato, Kids ABC, Kid Sketch, Kid Story...
BE.05	Colourbook; Fun for the younger child, an on screen colouring book!
BE.07	Word Extract, word puzzle help Plus: Starchart; astronomy program.
BE.08	Geography quiz; good educational game, plus Maths made easy...
BE.09	Spelling made easy, educational program that talks to you!
BE.10	Jigsaw; load any Degas picture as jigsaw puzzle! Great fun!
BE.11	KShapes and KShapes Plus; great fun for younger children, build up pictures 'fuzzy felt' style!
BE.12	Shipwreck; progress through this fun game by answering Arithmetic questions. guillotine Man; Hangman.
BE.13	The Wolf and 7 kids; Superb multi-choice adventure game for the little ones. Race Cards; Give answers to addition sums to race cars. Great!
BE.14	Noahs Ark; Unscrambling letters to form names of animals, includes animal noises, great educational fun!
ME.02	EZGrade; Teachers student grading program, Molgraph demo; 3D molecular display and manipulation, Easel ST demo; loads desktop picture.
ME.04	Search; Historical study program created with STAC from the same author as The History File.

BC. CLIP ART

BC.01	Small symbols; Seasonal, Flags, School, Cars, Disney, Cute creatures, Sports and Recreation, Big Cats...
BC.02	Titles, Headings, Christmas, Easter, Halloween, Valentine, Winter sports, Golf, Riding, Water sports...
BC.03	Logos, Trade marks, Symbols, People, Racing cars, Fish, Food, Magazine Titles, Symbols...
BC.04	Alphabets, Christmas symbols, Lots of eyes, happy, sad, wierd...
BC.08	Pictures of Garfield, Beano and Dandy comic characters. Picswitch enables easy viewing & printing!
BC.09	Viz Magazine; comic pictures, plus culinary; utensils, food...
IMG Files	Boys and Girls; Pictures of small children at play (Clip Art)
MC.04	Illuminated letters; Fancy A to Z. Plus; Funny pictures...

SO. MUSIC

SO.01	Midi special; Steinberg switch. 32 track sequencer, Midi channel scope, Hi-Tech trivia...
SO.02	Composer; enter notes from Midi keyboards or computer, Copy, transpose or output. Soundcomputer; allows the manipulation of internal sound chip.
SO.03	16 Voice synthesiser; multi voice record, filter of controllers, variable resolution metronome, works on all ST's and monitors and comes with comprehensive manual on disk!
SO.05	Alchimie Jr.; Powerful Midi Sequencer with features not found on many commercial programs. (Mono) (D/S)

DA. HELP!

DA.01	66 Adventure game solutions! Including: Future Wars, Bards Tale, Indiana Jones, Hitchhikers Guide, Zork 1, 2 and 3, Fish, Pawn...
DA.02	62 Adventure game solutions! Including: Leather Goddesses, Kult, Ultimas 1 to 5, Space Quest 1 to 3, Trinity, Deja Vu 1 and 2...

BD. DEMOS

BD.26	Snowman; digitised animation and music. Half Mb version! (DS)
BD.33	STE demo; See what your STE is capable of and be amazed! At last a demo as good as those Amiga ones...
BD.38	ANI ST; 2 excellent animations produced with Ani ST (see: BU.57); Juggling Lamps and the Trash Can demo.
BD.39	Teenage Mutant Hero Turtles; Excellent sample of the Turtles theme tune plus picture. Great one for kids!
BD.40	Smooth Cyber Studio produced animation featuring a Space Station revolving on a starry background!
BD.41	Monarch; Impressive animation with excellent graphics and music.
MD.15	Snowman; digitised animation and music. Brilliant! (Mb)
MD.21	The Brilliant UNION multi demo colour monitor & joystick required!
MD.22	UNION Demo 2; The Cuddly demo! lots of amazing animations accessed by moving an arcade style jetman around the screen!
MD.23	Definitive demo by the Lost Boys, prepare to be amazed! (Mb)
MD.28	Whataheck demo collection, by the Carebears again, Stunning!!
MD.29	Like a Prayer; Digitised sample of the Madonna song! (Mb)
MD.30	Cyber Demos; Buzzy Bee, Saturday Morning Workout, chasers - superb animated films from Cyber Studio.
MD.32	STE Demos; 400 colour version of the Amiga classic BOING demo. Movie ST; Animation using Hardware scrolling & blitter routines!
MD.35	Aliens; digitised sound and pictures from this Sci-Fi classic!
MD.38	Probe; Animation of a Voyager style space probe slowly spinning in space then moving around a planet.
MD.40	The Transylvania Demo; Music by Iron Maiden and coding by The Lost Boys makes this a very 'Heavy' demo.
MD.41	Robocop; Digitised samples of some of the more memorable sections of the film plus digitised sound! Approximately 7 minutes long and comes on 2 packed disks! (NOT STE)
MD.42	When Harry Met Sally; The very amusing bit from the film where Sally demonstrates to Harry how to fake...
MD.43	Star Trek; Good sample of the opening sequence from the TV series plus a superb Enterprise animation...
MD.46	Scanners; Disgusting exploding head sequence from the film! (Mb)
MD.48	Jungle demo; Graphically superb amusing cartoon style animation with samples music and sound effects! (STE)

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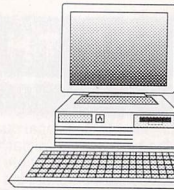
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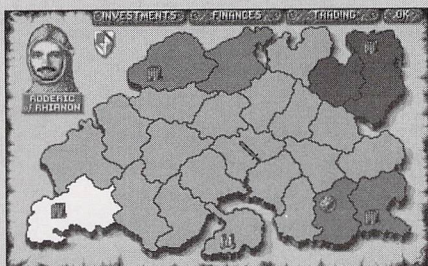
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■ Those dreadful *Feudal Lords* chaps sit around the table for hours bashing out their plans for world domination – but all they ever seem to do is end up deciding that Larry has squinty eyes and Rogey couldn't swordfight to save his life

FEUDAL LORDS

Impressions – £24.99

Set in the very mythical and medieval land of Euthrania, *Feudal Lords* sees Impressions returning to what they're best at – strategy games. The plot follows the exploits of four lords as they attempt to control the whole land. The lords can either be played by your ST or a group of competing human players.

The game is entirely mouse-driven. The four lords – namely Thorsten of Verlaine, Lothar of Dermot, Roderick of Rhianon and Malcolm of Karsten – vie with each other to earn loads of money and take over Euthrania.

The main screen shows the provinces of the land, with each lord's domain shaded in a different colour. You take it in turns to move or improve armies, tax the villagers or attack a

province. You can then use money earned to either invest or buy more soldiers.

To purchase new recruits you enter a simple icon screen. Every army is made up of knights, soldiers and bowmen, with knights being the most expensive. You control two types of soldier, either mobile or defensive, and you can change the numbers of each – when you attack a province for example.

Serious strategists are going to enjoy this game, although scope for gameplay does seem limited – a game doesn't take too long to complete. Graphics are pleasing and not too fussy.

STF Rating – 65%

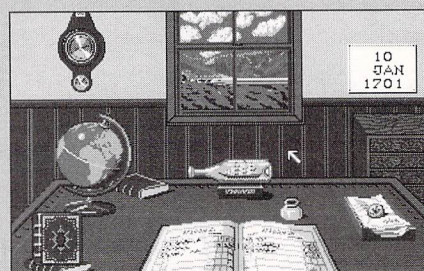
MERCHANT COLONY

Impressions – £29.99

Set in the 18th century, *Merchant Colony* is all about dominating world trade. You play a merchant who decides on trade routes, cargoes and the exploration of foreign lands, and your aim is ultimately to become extremely rich.

You control the game via the mouse. The main screen is your office and by clicking on the different items in the room you can access the control screens. Click on the ship and you can buy, equip and stock your ships. The map icon enables you to send your ship on its voyage. The book icon tells you about current prices for sailors, settlers, explorers and sundry employees. Your ledger enables you to view detailed accounts of your progress.

After equipping one of your ships, you choose a destination and send it out to



■ Don't be fooled by the very attractive graphics in *Merchant Colony*. This really is a strategy game, and a good one too

colonise the area. The type of crew and passengers you choose for the voyage depends entirely on your ship's ultimate destination. The most expensive employee is the storeman and the cheapest a soldier, with settlers, engineers and so on lying in between. You must manage your resources well to get on.

You can have only one ship in dock at a time, so you need to keep sending ships out to get a return on your money. The date clock counts down at an alarmingly fast rate so you can't muck about if you want to succeed.

Merchant Colony has considerable depth and excellent graphics. It's easy to see this becoming a favourite with strategists because it has a plenty of long term interest. It's nice to see a strategy game with decent gameplay and a style all of its own.

STF Rating – 84%

point. But the graphics aren't all the game's got going for it. The great strategy element means you're going to be playing this game long after your latest licence gathers dust on the shelf. However, if all you fancy is a quick blast, you can play the "Action Game" option. Either way this is a serious bargain and time hasn't weakened the sheer feel of this game. If you don't own *Carrier Command*, go out and buy it now.

STF Rating – 91%

THALION – THE FIRST YEAR

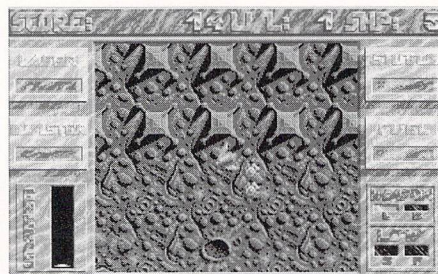
Thalion – £19.99

Great games have appeared from Thalion of late – their latest, *Enchanted Lands*, earned a coveted *FORMAT* Gold. This four game compilation offers the chance to test out their earlier stuff.

Chambers of Shaolin is a slick Kung Fu game. You are an apprentice at the local Shaolin temple and must complete six tests, from dodging fireballs to balancing on moving poles,

before you can start fighting. Then you can enter the combat screens. Graphically and aurally, *Shaolin* is great. What's more, it isn't let down on gameplay. This one's a real tester.

In *Warp* you whizz your craft around a tiny screen, shooting the aliens and their emplacements. A very average shoot-'em-up that looks



■ You need a warped sense of humour to get more than ten minutes of enjoyment out of *Warp* in *The First Year* compilation

extremely dated. *Leavin' Terramis* is very reminiscent of *Paradroid*. You must fight your way to the other end of the spaceship *Terramis* before it blows up. It might not look very original, but it plays well, offers plenty of levels and is above par graphically. In *The Seven Gates of Jambala*, the fore-runner of *Enchanted Lands*, you control a wizard who has to excavate his way through a fantasy land of lizards and dragons. The control method is a bit tough and the screen area is quite small, but *Jambala*'s a lot of fun and certainly looks original. Except for *Warp*, these are good games and the pack is good value.

STF Rating – 81%

FORMAT RATINGS THIS MONTH

How did they rate this issue? Here are all the games *FORMAT* reviewed this month



The Secret of Monkey Island	page 50	94%
Carrier Command	page 76	91%
The Killing Game Show	page 62	90%
3D Pool	page 76	87%
Merchant Colony	page 79	84%
Chuck Rock	page 67	82%
Thalion – The First Year	page 79	81%
Demoniak	page 68	80%
Moonshine Racers	page 54	78%
'Nam 1965-1975	page 58	76%
Masterblazer	page 60	74%
Quadrel	page 68	74%
Test Drive 2: Car Disk	page 75	70%
Test Drive 2: The Muscle Cars	page 75	70%
Predator 2	page 65	67%
Feudal Lords	page 79	65%
Test Drive 2: Scenery Disk	page 75	63%
Back To the Future 3	page 57	52%
Coin Op Hits 2	page 76	51%
International Ice Hockey	page 75	38%

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CHAOS STRIKES BACK

Mirrorsoft

Soften the blow with this tip from **Randeep Atwal** of the **West Midlands**. Stand your party in front of the Dragon and cast the spell MON ZO GOR SAR. Then pause the game by pressing the <Esc> key, hold down the <Alternate> key and type LORD LIBRASULUS SMITES THEE DOWN. Unpause and kill the Dragon. He leaves behind the Firestaff from the original *Dungeon Master* and your party is now invincible!

CORPORATION

Core Design

This game is hard enough without having to figure out how to reach and use the Psionics section, so **Justin Passmore** of **Berkshire** has sent in these tips on how to reach the menu.

1. You need to have a human character and sufficient Psionic energy to enter the correct mode. This energy is gained steadily while in real-time mode and also when you sleep.
 2. Click on the Head section of the damage display diagram to the left. If you have enough Psionic energy then the equipment diagram on the right is replaced with the Psionics menu.
 3. The menu consists of: a static picture of a grey cloud, three closed eyes in a triangle, a red triangle and a Psionic energy bar meter.
 4. The eyes have three settings: closed, half-open, and fully open (surrounded by a white band). Cycle between the states by clicking on the eyes. To restore them to the original settings click again on the head of the damage display. Combinations of these states cast different "spells," as follows. The eyes are described anticlockwise from the top.
- | | |
|------------|------------------------|
| LEVITATION | HALF, HALF, HALF |
| HEAL | FULL, HALF, HALF |
| DENSITY | CLOSED, CLOSED, CLOSED |
| MIND BLAST | FULL, FULL, FULL |
- To actually cast the "spell," click on the red triangle. To exit without casting anything, close all the eyes and then click on the triangle.

FLOOD

Electronic Arts

For anyone who's bought the game recently and doesn't know, the password to access all 42 levels is MEEK.

HORROR ZOMBIES FROM THE CRYPT

Millennium

Yes, yes – the passwords are included with the game, but you don't know the cheat mode password, do you? Just type in BOGEYEATER. Charming people, these game programmers. Anyway, thanks to **Paul Borgerson** of **Southport**.

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ATOMIX

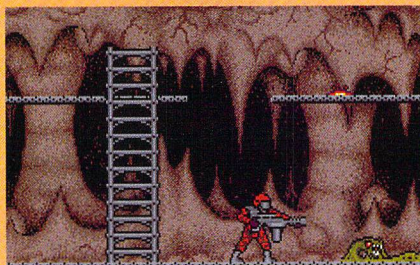
Thalion/US Gold

Press Help to enter the password. Type in TIME to freeze the clock.

BAAL

Psychapse/Psygnosis

Enter LOVEBUNDLE into the high score table for nice things to happen.



■ Obviously, we're going to redecorate this room in *Baal*. I mean, that awful wallpaper just has to go – and the green slime things clash with the platforms...

BEACH VOLLEY

Ocean

Type in DADDY BRACEY, then press F1 and you can skip levels.

DALEY THOMPSON'S OLYMPIC CHALLENGE

Ocean

On the title screen type HINGSEN-J, then when you press the Function keys you can enter any event you like.

ELIMINATOR

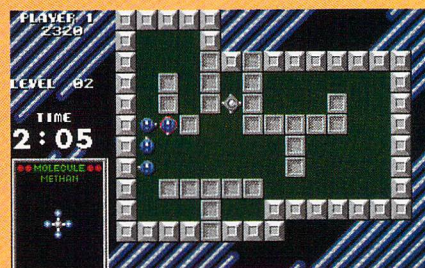
Hewson

This cheat mode is very tricky to activate. On the title screen press the <Help> key and type HANDEL to get onto level nine.

On your first life move left into the water. On the next life crash into the oncoming green alien. With your next life, shoot the alien, then fall into the water to your right, just before the ramp. On your last life shoot the alien, then move to the right of the middle track. As the ramp approaches, move towards the water. Just before you sink into the water you should hit the ramp and fly. You should have infinite lives. Hardly seems worth it, does it?

GREAT SCOTT! WHAT TIPS!

Scott Wills of the **West Midlands** has done the civilised world an enormous favour and sent in a staggering number of tips. We can't fit them all in this time, but here's a select few. Oh, by the way, he's earned himself £50 too.



■ Hah! Let's face it. Molecular science is for wimps! Real men prefer *Atomix*, astrophysics and Eastern philosophy!

FUSION

Electronic Arts

Start playing as normal. Press the <Esc> key and then start a new game. Press E to access the cheat mode. Alternatively type SWAMP THING into the high score table and then press E during the game. Both methods enable you to skip levels simply by pressing the plus and minus keys.

GHOSTS 'N' GOBLINS

Elite

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US Gold



■ Check your inventory in *Ghouls 'n' Ghosts*. Let's see – sword, axe, fire-balls... Oh, hang on! I know – clothes!

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LINE OF FIRE**US Gold**

For infinite credits follow these instructions from **Tom Briley** of **Kent**. As soon as the game has loaded press the <Help> key and a message appears. Now type in WHAT A BUMMER. Not only do you have infinite credits but you can skip to any other level by pressing the appropriate numeric key.

MiG-29 FULCRUM**Domark**

A couple of tips from **Steve Markswell** of **Aldershot**. First you must press the <Esc> key while viewing the Pilot's Table to save it to disk.

An easy way to get the 500 points needed to take on the final mission is as follows. Complete a mission – Blue is probably best – land, and then press <Control> and D together to go to Debriefing. You are told your mission is complete and awarded 100 points. Select the mission again but before taking off press <Control> and D again. You get another 100 points. Repeat until you obtain 500 points.

If you're having problems completing the Blue mission, try this. Take off, fly to the submarine and overfly it at low level (keeping Reheat on to keep the Harriers away). Once you have flown over the sub you can eject at any time. After parachuting down, go to Debriefing and collect your 100 points.

OPERATION STEALTH**Delphine/US Gold**

■ **Operation Stealth** provides plenty of adventure for would-be secret spies

Way, way back in *STF* 19 we printed some of the solution for this game and promised "more next month." For all those people who still haven't completed the game or who phoned in asking for the rest of the solution because they haven't been able to eat, sleep or move since then, here's the other half.

You should have reached the labyrinth scene by now. Get through this on the same principle as the Palace labyrinth. At the shower, operate the soldier. Examine his shoes and take the shoelaces. Take the towel and use it on the soldier, then use the laces on him. Take the shoes, the cloths and the glass and leave the room.

In the corridor go towards the exit at the bottom on the left. Next, go towards the opposite door and enter. In the stockroom examine the third drawer up on the left. Operate it, examine it again and take the laces. Use the laces on John. Examine the bottom drawer on the right. Operate it, examine it again and take the stamp, then leave the room.

In the corridor go towards the exit on the right, then go into the door opposite. You're now in the Guardroom. Examine the clothes, take the orders (sheet of paper). Use the ➤

➤ **Great Scott! continued****IMPOSSAMOLE****Gremlin Graphics**

On the high score table type in:
HEINZ – gives you three full energy bars
ANNFRANK – low energy top-up
LUMBAJACK – double-length energy bar
OOCHOUCH – walk on water
COMMANDO – no time limit on weapons
JUGGLERS – try it and see



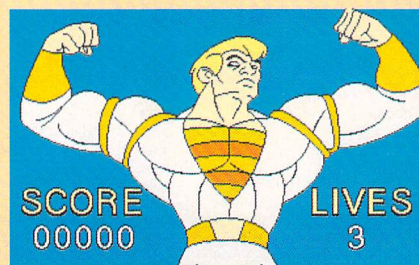
■ "Impossamole, it's impossamole..." All right, so it isn't all that impossible once you've applied this useful little tippette

SORCERY PLUS**Virgin**

Type in GAS MASK WHEELER WANTS CHEAT. You are now invincible. All doors are unlocked and the timer stops!

SPACE ACE**Readysoft**

Play the game as normal. When Borf comes in to attack you, pause the game and type GODEMODEXTER. Press the Fire button and tap <Enter>, then unpause the game and continue playing. On your last life the ST takes over and completes the game.



■ Wimpy? Spotty? Weedy? A tough life in **Space Ace**. You'll just have to get sand kicked in your face, won't you?

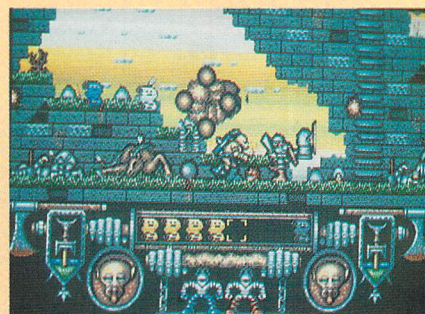
JUMPING JACK SON**Infogrames**

The passwords for the various levels in the game are as follows:

Levels 5-8: KAYLEIGH
9-12: ALCHEMY
13-16: OCTOBERON
17-20: TANGRAM
21-24: INCUBUS
25-28: SIRIUS

ONSLAUGHT**Hewson**

On the Map screen press F9 and F10 simultaneously. You can now edit the land. Move the cursor around the map and alter the land using the Function keys.



■ Some of these grotty outside walls in **Onslaught** need doing up a bit, obviously

PLATOON**Ocean**

On the title screen type HAMBURGER-HILL. Press F2 to get to the TNT, F3 for the bridge, F4 for the village and F5 for the forcefield.

STRYX**Psygnosis**

Load the game and press the <Help>, M and D keys simultaneously to gain more energy. Press <Help> and P for the door passes.

SUPER GRIDRUNNER**Action Sixteen**

Not running so smoothly? Just pause the game and type in PINK-FLOYD-ARE-GODS.

THRUST**Firebird**

At the Desktop, double-click on the program called CHEAT.PRG on the *Thrust* disk. Then load the game. During play, type in CHEAT.

THE UNTOUCHABLES**Ocean**

To skip levels pause the game on level one and type BRIDGE ROLLS to get to level two. Pause here and type MACN ALLEY to reach the alley level. Pause again here and type KID ZAPPING to get to the pram level. Pause again and type in A NIT IN TIME for the last level.

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glass on the water fountain, operate the untidy desk, take the lifeboat and leave the room.

In the corridor go towards the exit at the top on the right. The officer asks you to get him a glass of water. Go towards the exit at top on the right, then towards the exit top left. Go through first door on the right.

The officer's room: use the full glass of water on the officer. As soon as he turns round, take the stamp and leave. In the corridor go towards exit on the right, then towards exit at the bottom on the right. Then go through the door. You're in the Guardroom. Take the ink pad (between the chair and untidy mess on desk),

use the stamp on the pad and use the inked stamp on the orders sheet. Operate the cigarette case and examine the cigarette. Operate it and use the cigarette paper on the glass. A fingerprint appears. Now leave the room.

You're in **the corridor:** go towards the exit at the top on the right. Use the fingerprint on the keypad and go through the armoured door. Go towards the other exit on the right. In the laser room use the stamped orders on the letter box and go towards the laser doors. In the corridor use the electric cable on the electric socket. Operate the electric razor to turn it on. Use the razor on the waste-paper basket. Go

towards the exit on the right and now you're in the **control room.**

Wait for the message from the razor: "Explode, one, two..." As soon as the message appears, use the red cigarette on the computer. After the computer has exploded, operate Otto. After John has fought with Otto, use the Compact Disc on the laser reader. Then go towards the door at the top on the left.

At the helicopter scene, use the elastic band on the bomb. Let yourself fall to the ground. When the second screen appears, operate the lifeboat. And that's all there is to it! Okay, you can resume normal living now...

SUPREMACY

Melbourne House

This excellent space opera may well be causing some people a few problems. Now some of your worries are over because **Jonathan Boydell of Notts** is here with the complete solutions to Galaxies One and Two. Here we go then with Galaxy One...

GALAXY ONE

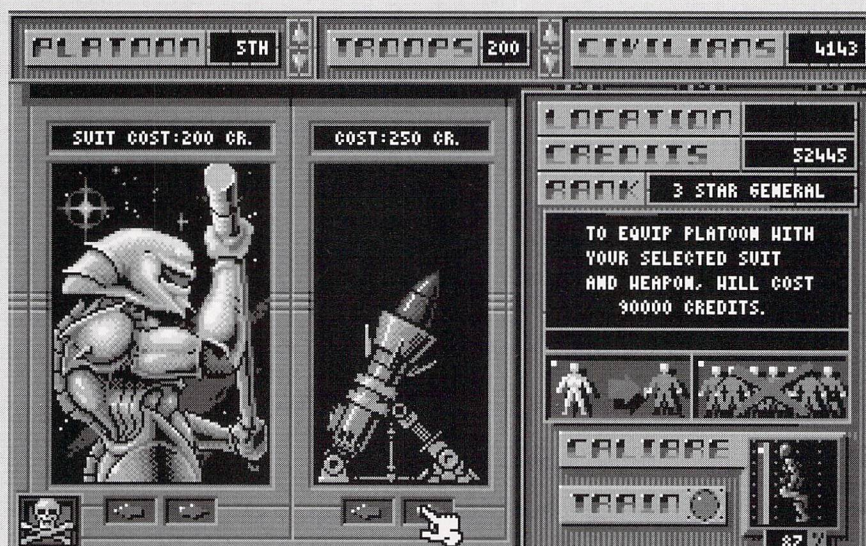
1. Buy a Mining Station, a Horticultural Station and a Solar Satellite.
2. Crew your Mining and Horticultural Stations, put them on the surface of a planet and start them running.
3. Send the Solar Satellite into orbit around Starbase.
4. Set Starbase's tax rate at 7%.
5. Start to train Platoons One to Four.
6. Buy, crew and fuel a Battle Cruiser.
7. An Atmosphere Processor is now available for you to buy. You don't have enough to get one yet, so put up the tax rate to 100% until you have. Then buy one and reduce the tax rate to 5%.
8. Platoons One to Four should really be trained by now so you can start to equip them with Basic Armour and Recoil Cannons.
9. Now start to format the planet nearest to your Starbase.
10. When the first planet is formatted, buy a Solar Satellite and a Horticultural Station.
11. Fuel, crew and launch the Horticultural Station. Don't forget to land it and put it on the planet's surface.
12. Then simply launch the Solar Satellite for Planet One into orbit.

13. Put the four equipped Platoons on Battle One. You must then send it to the last planet the enemy formatted.
14. Start training Platoons 5 to 12 with 200 men in each.
15. Start formatting all the other planets.
16. When the population on Starbase reaches 20,000 plus, set the tax rate between 35% and 45%. Buy another Horticultural Station, crew it and start running it on the planet's surface.
17. Buy two Battle Cruisers. Crew and provide fuel for them. When Platoons 5 to 12 are fully trained, buy them Synth Alloy armour and self-loading gas cannons. If you can't get this money set the tax rates on all the planets (except Starbase) at 100% until you get the money you're looking for.

17. Load the troops onto the Battle Cruisers and send them off to the enemy base. Dock the Cruisers and unload the troops.
18. Set the Aggression levels to full and let the battle commence!

GALAXY TWO

1. Buy an Atmosphere Processor, a Solar Satellite and a Horticultural Station.
2. Start formatting the nearest lifeless planet.
3. Send the Satellite into orbit around Starbase.



■ "You can do, you can do, you can do Galaxies One and Two!" Are you having a hard time of it? Well, hey, you really can get yourself populating those galaxies now, what with these pretty ace tips for *Supremacy*. (Lessons in being way-cool not included)

4. Crew the Horticultural Station, put it on Starbase's surface and start it running.
5. Set Starbase's tax rate at 7%.
6. Start to train Platoons One to Four with 200 people in each platoon.
7. After "Planet One" is formatted – buy, crew and fuel (with 150 tons of fuel) a Horticultural Station and then send it to Planet One along with a solar satellite.
8. If the planet is:
 - a) A Desert planet – buy and send two extra Solar Satellites along as well
 - b) A Tropical planet – buy, crew and fuel (150 tons) one Horticultural Station and send that along as well
 - c) A Volcanic planet – buy, crew and fuel (150 tons) one Mining Station and send that as well
 - d) A Metropolis planet – set the tax rate at 7%.

9. Start to format the planet six planets away from Planet One. When it's formatted, don't forget to rename it "Planet Seven." When it is formatted, repeat step eight for that planet.
10. Then begin to format all the other planets between Planet One and Planet Seven, starting with the one nearest Planet One. Repeat step eight for each planet.

10. Buy a Battle Cruiser and a Cargo Cruiser. Fuel each one fully and send the Cargo Cruiser to the nearest Desert or Volcanic Planet for either fuel or energy. Once it's full with one or the other send it back to Starbase.
11. By now Platoons One to Four should be trained to 100%. It doesn't matter if they aren't. Equip them with Basic Suits and Recoil Cannons and put them on the Battle Cruiser.
12. Send the Cruiser to the nearest planet that the enemy has formatted and land all four Platoons on it. Repeat for all the enemy's recently formatted planets.

13. Set all tax rates on Metropolis planets to 35%, Starbases to 40%, Food planets to 5%, Desert planets to 38% and all other planets to 100%, including those you've captured from the enemy.
14. Now send all of your captured equipment to one of your eight original planets.
15. Buy more equipment (as in step eight) for the five planets nearest to Starbase (Planets One to Five inclusive).

16. If possible, start to train Platoons 5 to 24. If not, train as many Platoons as possible.
17. Now you must wait until you have enough money to equip Platoons 5 to 24 with Synth Alloy armour and Nuclear Mortars.

18. When you have trained all the troops to 100% and equipped them, you need to buy five Battle Cruisers. Buy three to begin with, fuel them fully and also fill 300 tons of their cargo space with fuel. Send them to Planet Seven, unload their cargo and refuel.
19. Make sure you remember to put the four Platoons of Troops on each Battle Cruiser. Repeat the second half of step 18 with the other two Cruisers, then send them all to the enemy base. Dock the first three Cruisers, unload the troops and launch two of the first three Cruisers back into orbit around the planet. Dock the second two Cruisers and unload the troops. Set the aggression level to 100% and just watch the fireworks fly!

INFESTATION

Psygnosis

Smylie Gumble from **Ware** in **Herts** "infested" in this game and has some words of wisdom

1. Save your position constantly!
2. I can wear my suit without oxygen in it! (But do not remove it in a vacuum or poisonous environment!)
3. You must be fast paced. The eggs are hatching and the core of Xelos is heating up fast!
4. Try to reach a terminal at the end of each level, so as to check you haven't missed any eggs. They show on maps as flashing points.
5. Tread Carefully. The only real danger is if you touch the inhabitants of Xelos.

GETTING INTO THE ALPHA 11 STATION

1. You are dropped off at the landing pad. Press the up arrow key to activate your M.M.U. Press the Fire button, and do not turn. Land at the next collection of ground structures.
2. Go to the terminal and activate it by pressing F2. Type in "Kal Solar."
3. Run to the now activated teleporter and you're in.

THE FIRST LEVEL

This level is simple to get into and poses no real problems. Get the screwdriver. Press F1 to open grates with it. Now get the elevator key. The blacked out area is fairly simple once you have the infrared add-on (see level three). Beware the two defender droids. You cannot enter the vehicles parked in the bay. Next, use the elevator to go right down to level six.

THE SECOND LEVEL

Sprint from elevator "A" as the radiation seeps from the guardian, through the doors and at you. All the rooms are sealed up and the key is on level six. Never pick up any of the boulders! They are radioactive and slowly kill you! (This applies to level four too). Once you have the key and have obtained the compass add-on,

this level becomes routine egg eradication. Go to the third level via elevator "A." When you come back up, use elevator "C" to go down to level five.

THE THIRD LEVEL

Watch where you tread! Get the infrared unit (which drains your battery fast so use it only on level one). Watch out for the security bulkhead. You can see it with infrared but you don't need to. Just press F10 and crawl under the laser beams. Beware the "Zapper" room!

Take elevator "E" up to level two and avoid the bulkhead there. Kill the eggs and return to this level. Eradicate everything you can reach. Use elevator "A" to go to level two.

THE FOURTH LEVEL

Perhaps the easiest level, but the most draining! The only problem is the vortex chamber through which cyanide does not pass. Other than that, you should complete it if you do not rush! By now you should have completed all the other levels. Retreat to elevator "B," go up to the third level and take elevator "A" to level one. There you can destroy the last few eggs hidden in the dark area, reach the surface and hit the <Esc> key!

THE FIFTH LEVEL

If you get past this level, then tell us how you did it! We're dying to know.

THE SIXTH LEVEL

Once into the vents, kill everything so you do not have to return. Ensure you activate the cooling system and retreat to level two.

Unless you activate the craft in the bay, you can't truly win. But since you can't get into the craft, you're just going to have to get

picked up. Beware! The ending is pretty nasty but spectacular.

THE SPECIAL ROOMS

1. THE EXTERNAL VENT

This room is the cause of the vacuous state. You cannot seal it.

2. THE BRIDGE

The bridge high above the glowing reactor is a highly radioactive area! The only safe thing to do is run through it as fast as you can!

3. THE "ZAPPER" ROOM

The laser homes in upon electricity patterns, so switch off your battery if you don't want to attract any alien attention.

4. THE LEDGE

The face can't harm you, but be careful! It's easy to get too close to the edge and fall off it.

5. THE VORTEX CHAMBER

It rolls you over! You must time your exit so as to leave upright or you die!

6. THE CENTRAL COMMAND OFFICE

A. This is the lock terminal. Use the Fire button and joystick to shift the left pattern to match the right pattern.

B. This is the map terminal for level six.

C. This terminal plays asteroids. Anyone got any idea why?

D. This terminal shows how hot the core of Xelos is. When it reaches around 6,000 degrees Celsius, it explodes! Activate the coolant system to halve the rate.

E. This terminal is major Kelm's last log entry. Read it and learn something.

F. Some special kind of data bank. Stop trying to use it!

7. THE CORE CONTROL ROOM.

Highly radioactive, so hit the switch on the west wall and run back into the vents. The switch activates the coolant system.

PREDATOR

Activision

Keep on pressing F10 to get extra energy – says **William Allen** of **Cheshire**.

RESOLUTION 101

Millennium

Take advantage of "Old Timer Clive's Trade-in Guarantee," advises **N Worthington** from

Cheshire. Save up \$6,500, then buy a light cannon (class one). You can now not only hit targets high in the air but also do ground-based targets much more damage – because Ol' Clive also fits you with a heavy machine gun, free!

SKATE TRIBE

Mandarin

John O'Reilly of **Salford** has discovered a cheat mode for this game (which was yours free

on **FORMAT** Cover Disk 7). On the high score table enter **HORTON I** (in capitals) and press <Return>. From now on, you have infinite lives.

SLY SPY SECRET AGENT

Ocean

Tom Briley of **Kent** also supplied this cheat. Enter your code as 0-0-7. Now start a game and type **SHAKEN NOT STIRRED** for infinite credits.

THE EMPIRE STRIKES BACK

Domark

End the striking with this tip from **Darren Plant** of **Birmingham**. Hold down the <Tab> key and type **VEKTORGRAFIX**. Then press L, C or D to see pictures of C3PO, Luke and so on. You also get infinite energy.

TURRICAN 2

Rainbow Arts

Need a cheat quick? Try this one. Start the game and jump up and to the left. Climb up the hill and jump again. Press the Spacebar and launch a Wall of Death. A block appears – jump into it and a shower of weapons appears. Thanks for this rather gymnastic tip must go to **Dan Chuthey** of **Bath**.

WE WANT YOUR TIPS & CHEATS

"Egad, sir, I cannot get through this game. If only some altruistic soul with not the remotest concern for the possible £50 prize would send a helpful tippette to **ST FORMAT** then I could perchance get past these spitting maidens and get on with my dull life of chivalry!" If you've got any tips, cheats, short cuts, infinite lives pokes or passwords for ST games, then send them to us by the millionfold and help out other poor ST gameplayers like Arthur Pendragon above! After all, **ST FORMAT** reaches well over 55,000 ST owners (including Arthur) so you've got nothing to lose!

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Activision

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Target on the unknown and fire a recon missile. You then discover that you are dealing with the Berzerker! Keep the Berzerker in your sights, and use reverse thrust to keep at a safe distance from him (about 3,000m). Keep reading the messages until he introduces himself to you. Next you get a message saying, "fee fie foe fum, I smell the blood of an organic ore" and an unidentified missile is fired at you. Target on the new unknown and rapidly fire off two recon missiles - to add info to the data banks - and a stinger missile to destroy it.

Read message then target the Berzerker again. Fire off all stinger missiles, mines, and so on to annoy him and then as soon as you have read the message "leave this space before I eat you," return to base - before he eats you, naturally.

Next Mission:

Fire several unknown Sirian vessels to update data banks. Use the tactical view and autopilot 4 as before to keep a safe distance from the Berzerker. As soon as you get the message to attack, fire off all missiles and mines at the

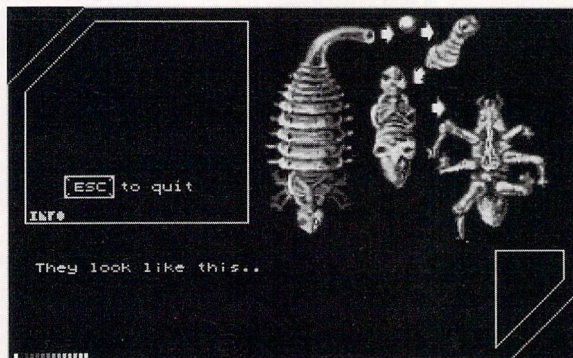
Berzerker and get well away. Return to base after the recall message.

Next Mission:

Do routine patrol and then go and wait for an emergency recall message and return to base.

Next Mission:

Berzerker in Pluto space. This is the important one. Use the tactical view and autopilot 4. Berzerker is off the screen and directly below you



■ **Warhead problems getting you down? Just follow our tips and you can finally give that Berzerker what for**

when you arrive. Once he's targetted keep pointing at him and use full reverse thrust all the time to keep him away. Shoot any missiles he fires at you with your MDC.

You receive an insulting message from the Berzerker on arrival - remember to annoy him as much as you can on this mission. Keep shooting his missiles with MDC, but try to

destroy them as soon as possible, so that the Berzerker gets caught in the blast. During a pause between his missiles let all your stinger missiles and mines go at him so that he is caught in a continuous explosion.

If you succeed you receive a message from the Berzerker saying, "of all tiny organic species, you and you alone have annoyed me! I shall destroy you" and he quad-spaces away. If you don't succeed he goes on to destroy the Earth, so you must keep repeating this mission until you do succeed! At the recall message, return to base.

NEXT THREE MISSIONS

You are given three routine missions which you are not able to complete because the Berzerker keeps turning up and getting in the way. Use standard tactics to fight him and when you've used up all your weapons and survived for a certain length of time you're recalled.

FINAL BERZERKER MISSION

You are briefed that the Berzerker is taking a personal interest in you, and you are to do whatever is necessary to shake him off.

Set coordinates for CH-010. As soon as you launch from Solbase, the Berzerker quads in with you, so quad out! As you reappear by the black hole hit autopilot 9 (to stop you from getting sucked in). Wait until you see him disappear into the black hole and explode, and then when the PWS (Proceed with Sortie) icon starts to flash, return to base for congratulations, interuniversal acclaim, and wealth beyond the dreams of asteroids. **stf**



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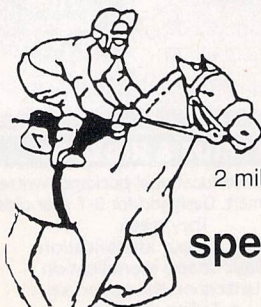
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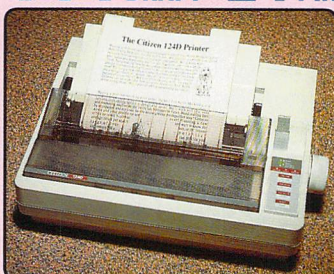
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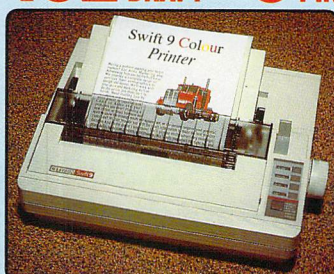
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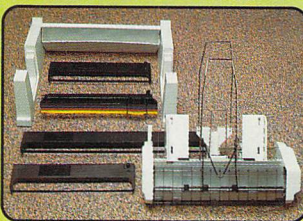
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THE KANDY KOLOURED TANGERINE FLAKE PICTURE STREAMLINED SHOW

"This picture is from Adrian Nasty, aged eight. Look at those lovely colours in the sky..." Ed Ricketts wallows in nostalgia and your piccies

Those were the days! Tony Hart wittering on in his strangely enthusiastic voice about how you could take a potato with some holes in it and print the Eiffel Tower. At KANDY, of course, we like to think we're a little more sophisticated. Take a look at the piccies on show this month and see what we mean.

And who are the creators of these pixel pieces? Are they incredibly rich and successful graphic designers trying to win £25 on the side? Are they intensely psychopathic grizzly old men wearing paint-stained smocks and a beret? Nay,

sirrah! They are simply ordinary punters like you and me. And if they can do it, why can't you?

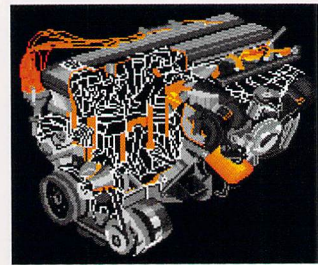
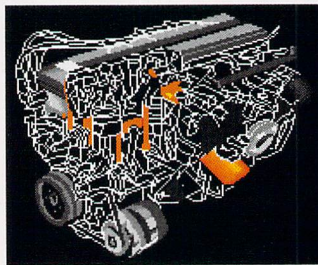
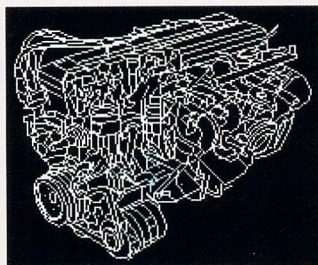
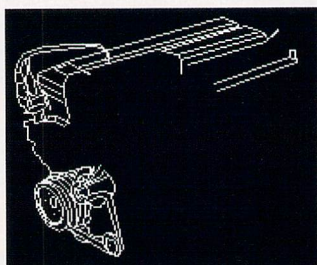
Quick! Dig out your *Degas*, your *DPaint*, your, erm, other art package, create that masterpiece and send it in! And include every little detail of the process: what program you used, how long it took, your tips and techniques and what biscuits you ate in your breaks.

A small point to all budding artists. If you have *Cyber Paint*, the SEQ file format is an excellent way to store many construction screens of your work without taking up huge

amounts of disk space. You don't necessarily have to use *CPaint* itself for the drawing. It's just handy if you want to send in a lot of intermediate pictures – just what KANDY loves.

Get those virus-free disks crammed full of your piccies to: GALLERY, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW. Make sure you include your name and address – we can't send you your £25 prize without it! And remember: the only thing we have in common with Tony Hart is that we can't return any disks under any circumstances at all ever. **stf**

MOVING PARTS? IT'S ENOUGH TO DRIVE YOU ROUND THE BEND



To contrast with the somewhat rural flavour this month there are these pictures from **John Preston** of **Stoke-on-Trent**. They're from an animation simply called "The Engine" which he did some time ago and which is available in the Public Domain. Over to John:

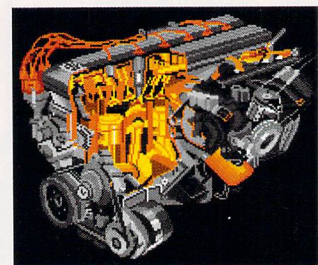
"The original picture is based on an illustration in a car magazine and began life simply as a static

scene, but with a little persuasion from my wife it developed into a completely animated engine.

"It started as a tracing of the original picture drawn bit by bit on screen using *Degas Elite*. When the line drawing was complete, I chose the colours needed and in a totally random fashion began colouring in separate parts. Often I would go back and make small adjustments to parts I thought I had finished,

sometimes giving up in despair and coming back to it weeks later, until eventually it was finished. Then came the idea of animating it, so I drew another eight screens for one cycle of the pistons and then reversed them for the next cycle." It should come as no surprise to learn that John is a driving instructor by profession.

■ *Degas Elite* is £24.95 from **Electronic Arts** ☎ 0753 49442



YES, TONY, LOVELY COLOURS – AND LOOK AT THAT DETAIL

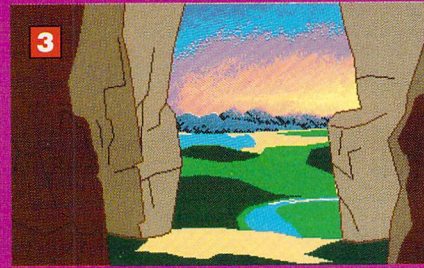
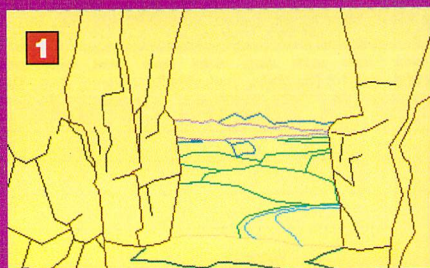
£25
WINNER
STF PRIZE

Congrats to **Grant Naylor** of **Manchester**, who's won the £25 prize this month for his excellent piccy of a peaceful landscape. He says the picture took around seven hours to complete using *Deluxe Paint*:

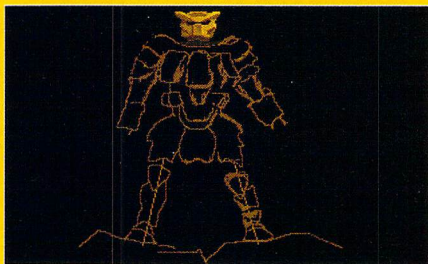
"Picture one is a simple outline representation of the landscape using the K-Line function. In the next picture, filling in some of the blocks in

Solid mode helped the scene to make more sense visually. I did the sky first by using the Stencil mode to protect the other colours around that area and then using the third built-in brush (the larger of the three round brushes). I also used this brush in picture three, using Smear to blend the colours in the sky – again using Stencil to protect the colours in the hills and rocks.

"When the whole sky looked sufficiently smeared I touched it up in the Magnify mode. The fourth picture shows the hills, lake and sea filled



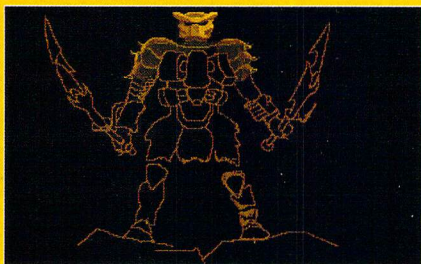
BUT IT DOESN'T REALLY LOOK LIKE MORPH, DOES IT?



Jim Merrett of Essex took his inspiration from the back cover of an *Alien vs Predator* comic – well, let's be frank, he copied it (but didn't he do it well!). He used *Cyber Paint* – not usually the most popular program for static art, but full of features nevertheless.

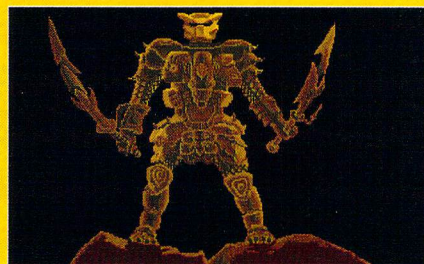
"First I drew a rough outline in full screen mode which was then turned into the final outline using Zoom. The background was drawn early on and the De-focus option used on it to soften the colours somewhat.

"At various points, the incomplete figure was pasted onto it to check the overall colour scheme. I built up the character piece by piece, and once complete it was pasted onto the background.



"The finishing touches were then added – antialiasing the swords, for example, by cutting them out and pasting them onto a separate screen. This is one of the best things about *Cyber Paint*: the ability to have many, many different work-screens on the go at once. After antialiasing the swords, I pasted them back onto the main screen and the picture was finished."

■ **Cyber Paint £49.95**
Electric Distribution
 ☎ 0480 496666



NOW THIS ONE'S MORE LIKE MORPH

Mono art can often be just as striking as a 4,096 colour picture. Witness this drawing of a bulldog by Will Brooks of



Norfolk,



who's done all this with just a few shades of grey, using *Deluxe Paint* – it certainly seems to be gaining in popularity.



Using a grid, the basic



outline and shape were drawn. Freehand and straight line were then used to draw the nose and mouth.

The shading was done with a Dither fill. Finally, I used a Gradient Fill with Conform and a darker palette around the edges."

AND IF YOU LOOK VERY CLOSELY...



Peter Harris of the West Midlands sent in several studies of rural bliss and this butterfly was the best of the lot. Peter used the old standby *Degas Elite* for this picture, but unfortunately he didn't give a huge amount of explanation of how he did it.

"The pictures represent my first attempt at ST art. My ideas come from old postcards, newspapers, scrapbooks and from simply looking at things. I recently bought *Canvas* after reading *ST FORMAT*'s review and now use this as standard. It's wonderful."

If this is one of your first attempts, Peter, we can't wait to see your pics when you're really experienced!

■ **Canvas £14.95 Microdeal**
 ☎ 0726 68020

with a Dither pattern and then touched up in Magnify. I altered the background somewhat and then switched again to Magnify to create the tiny trees. This was easy, because I could draw one, cut it out and use it as a brush, which is useful for getting the scale correct.

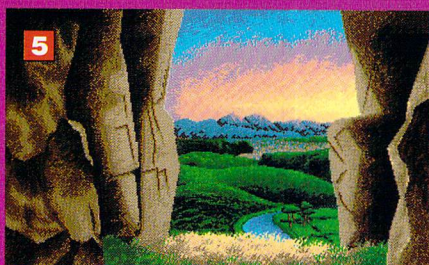
"The grassy verge was created using the Spraycan in Palette mode, with a flow rate of about a half and the smallest possible spray size. I used the GRASS.IFF brush supplied with the package.

"Working from back to front, I chose the lighter yellows and then gradually moved forward using the greens. I used Stencil on the two rocks in the foreground because you shouldn't be able to see any grass

around their bases. In picture five I worked on the rocks themselves. These took the longest time because of their size, but they were easily done. I dither-filled blocks within the rocks to enable me to shade them later on in Magnify.

"Finally, in the last picture, I altered the background a bit more. I used lines and Bezier curves to draw loads of dark twigs to add the atmospheric frame effect around the picture and then added leaves using the first built-in brush."

■ **Deluxe Paint £49.99 Electronic Arts ☎ 0753 49442**



Public sector

Diving feet-first into the growing flood of Public Domain software that threatens to engulf the FORMAT office, Andy Hutchinson pulls off his face mask and says, "Darn! I forgot me snorkel again, Hyacinth!"

DEMOS DEMOS DEMOS DEMOS DEMOS DEMOS DEMOS DEMOS



■ Arnie takes a break from the *Predator 2* demo to model a Boots 17 range full-body mudpack with matching camouflage boots

PREDATOR 2 DEMO MPH

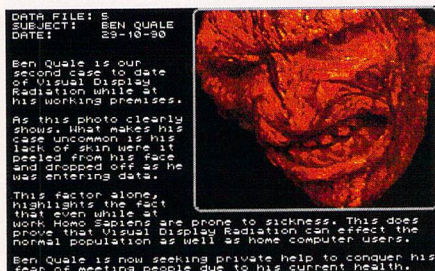
Nope, not a wibbly sine wave, multi-loading, soundtracker demo, but a digi-demo. The stills come from the movie *Predator*, with sampled sound and the occasional piece of text thrown in for good effect. The whole demo is extremely well pieced together – the samples coincide nicely with the appropriate graphics and the stills themselves are of a high quality. Nice to see a professional looking digi-demo with no pornographic humour as well.

STF Rating – 84%

THE VDU DEMO MT Software

Harvey Lodder has written loads of demos, though this is something of a departure from his usual style. It's a spoof on VDU radiation and the effects it can have on you. Various case studies are highlighted including an unfortunate woman with pulsating boobs and a Freddy Krueger lookalike. A gnarly demo, but quite short.

STF Rating – 77%



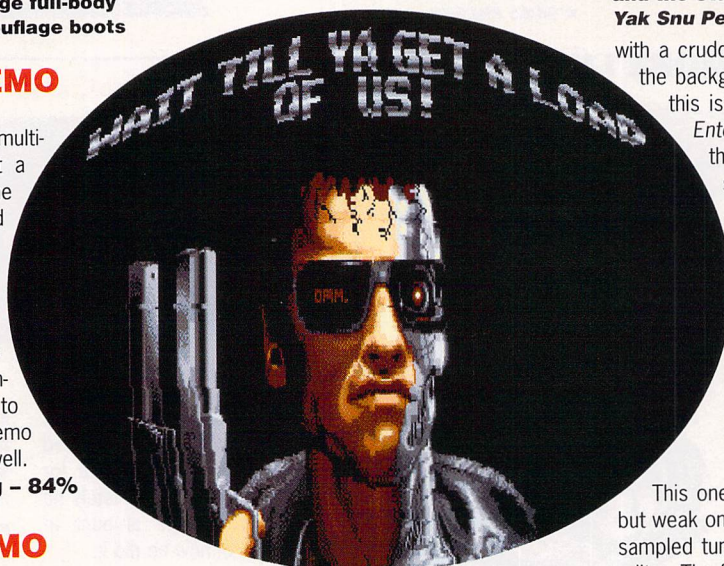
■ I always knew monitors emitted some funny rays, but obviously this poor chap has had his career options cut. A movie career beckons, thanks to the *VDU Demo*

BOMB DOUBT DEMO

Review copy supplied by author

The different screens which make up this demo vary wildly from the excellent to the downright awful. Best of the crop is the Fractal Lightsynth screen, in which you can produce some hypnotic Mandelbrot colour cycling, with two samples playing throughout. The worst screen is definitely the Bouncing Bar section. This demo is available from most PD libraries.

STF Rating – 65%



■ Yes, well. When you do get a load of the *Bomb Doubt Demo*, it isn't terribly awe-inspiring – more yawn-inspiring really

THE DEMO WITH NO NAME

Review copy supplied by author

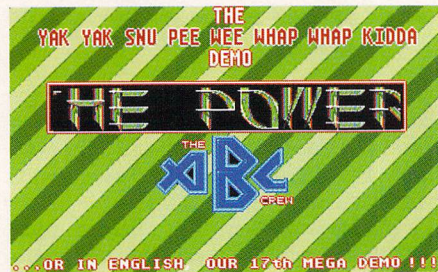
There was a time when demos had doody graphics and duff sound. The situation has recently changed. Now many demos have groovy sound but duff graphics. This one is a case in point. Sampled or soundtracker music plays throughout but the demo is very weak in the visual department and a tad short too. Worth checking out for the tracker music anyway.

STF Rating – 80%

THE STAR TREK SAGA DEMO

C.Hacks PDL – Disk CD120/0

Really can't see much point to this one – 21 digitised piccies from the Star Trek series along



■ Da da duh! duh! duh! I've got the power – and the Stupid Name Award winning *Yak Yak Snu Pee Wee Whap Whap Kidda Demo*

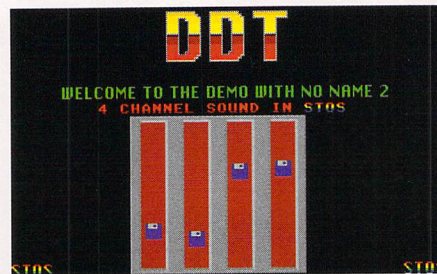
with a cruddy music chip soundtrack playing in the background. The title screen boasts that this is the only demo to feature all three Enterprises. Phew! All three – what a thrill. The other piccies are digitised shots of the *Enterprise's* crew, past and present. Flipping boring, even if you're a hardcase Trekkie.

STF Rating – 36%

YAK YAK SNU PEE WEE WHAP WHAP KIDDA DEMO MPH

This one is strong in the sound department but weak on the graphic front. It consists of two sampled tunes which are remixed via a sample editor. The first is a version of "Power" by Snap, who had a hit with this song last summer – it has some nice repeat effects. The other is Technotronic's "This beat is Technotronic," which was also popular last year. This has also been souped up and has a nice voice laid over at the end of the track. Definitely one to stick through your hi-fi.

STF Rating – 73%



■ Remember those westerns with mean-looking characters always referred to as "The Man With No Name?" Well, here's *The Demo With No Name* – catchy, eh?



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B-Soft, 33 Corsham Road, Calcot, Reading, Berks. RG3 5ZH ☎ 0734 416492

Budgie UK, 5 Minster Close, Rayleigh, Essex SS6 8SF
Caledonia PDL, 250 Oldtown Road, Hilton, Inverness, IV2 4PT ☎ 0463 225736

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West London PD, 8 Berkeley Road, Hillingdon, Mdx. UB10 9DU ☎ 0895 53521

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Our aim is to make this directory as complete as possible. If you run a PD library not listed here and would like to be included, or if you are already listed and want to amend any details, then send full details and a copy of your latest catalogue to: PD Directory, *ST FORMAT*, 30 Monmouth Street, Bath BA1 2BW

UTILITIES UTILITIES UTILITIES

► **SIM CITY EDITOR**

Goodman PDL - Disk GD1083

It's a measure of a game's success when you discover PD utilities emerging for it. This *Sim City Editor* contains three programs which enable you to modify saved game files and print out a map of your teeming metropolis. You can alter the map, increase funds, modify the difficulty level and change the city's name. Jolly good fun if you're a city stomping Godzilla.

STF Rating - 76%

GEMCALC

MT Software

Business software is nearly always outrageously overpriced, so it's refreshing to find a free program which does the job. *Gemcalc* is a simple but well-featured spreadsheet program with a GEM interface. You can program up to 5,200 cells to manipulate data, and then operate standard mathematical and statistical functions or compile charts. Definitely worth taking a look at.

STF Rating - 80%

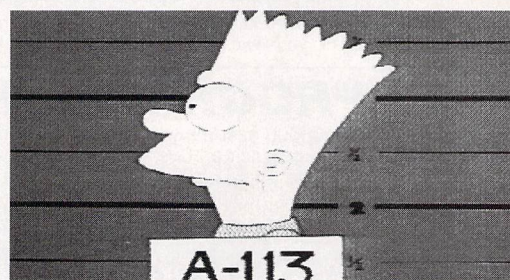
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VIZ SLIDESHOW

Paradise Computers - Disk WP25SE

Disks of clip-art are growing in popularity as desktop publishing takes off. Clip-art enables you to crop images and then place them in your own documents. Even so, what kind of document would you want to sprinkle with Viz cartoons? The whole infamous Viz team are here in glorious high resolution - from Norbert Colon to the Flat Slags. Parish newsletters are never going to look the same again.

STF Rating - 71%



■ The best place for Bart Simpson is definitely in the local lockup. Still, at least in the *Simpsons Picture Show* he's funnier than Edd the Duck

SIMPSON'S PICTURE SHOW

C.Hacks PDL - Disk CH121/D

Not so much a picture show as a video show. Last name Simpson, first name Bart is captured in his pop video debut via a series of digitised piccies. These aren't of a terribly high quality but they're amusing in a ten seconds kind of way. Not a hell of a lot of use really.

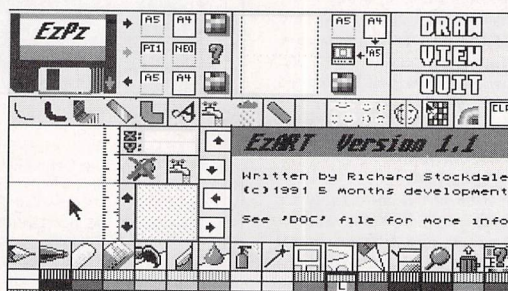
STF Rating - 56%

STE SOUND PLAYER

Floppyshop - Disk SND96

Any utility which makes the most of the STE's superb hardware has to be applauded. This is a digitised sound player which enables you to load in sampled sounds or music and then replay them at one of four Hertz rates. You can tweak bass, treble and volume controls - even play standard chip music over the top of it. Useful for all aspiring STE demo writers.

STF Rating - 74%



■ With all the usual art package features, *Ez Art* enables you to create A4 size pictures and then scroll them up and down in memory. Glorious fun!

EZ ART

Floppyshop - ART42C

There are many fully featured and full-priced art packages available for your ST but this excellent program costs you only the price of a blank disk. The program runs in low resolution and is icon driven. Via a friendly, colourful interface, you can perform the usual drawing and editing functions such as lines, circles and boxes, as well as use fills and text printing facilities. This is a wonderful program which could easily be sold as a full priced package.

STF Rating - 92%

CALEDONIA PDL'S TOP TEN

Every month we ask a Public Domain library boss to nominate his top ten disks. This month's top ten comes from Jake Bain at the Caledonia Public Domain Library.

- | | | |
|---------------------------------|-------------------------|------------|
| 1. Gramslam/Bill Aycock's Acc's | 6. Ripped off Demo | |
| 2. TV-Titles 2.0 | | - AU-0055 |
| | 7. GFA Tutorial | - RIP81 |
| 3. MAZ and other games | | - LAN-0005 |
| | 8. Audio Sculpture Demo | - MU-0010 |
| 4. European Demos | | - AG-0015 |
| | 9. Neochrome v2.2 | |
| 5. Dark Side of the Spoon Demo | 10. Ball Blazer/Life v3 | - GM-0040 |
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THE PAY OFF

Adventurers' Club - Disk 25

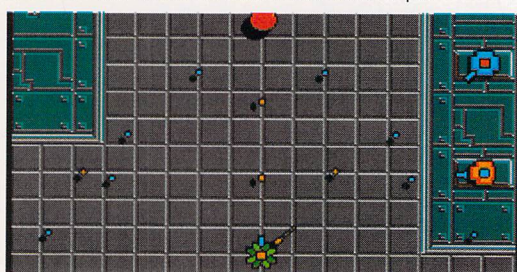
The Pay Off has been written using STAC, the ST Adventure Creator, and a steely good little game it is too. You play a gambler who's gone and annoyed the local mafiosi. These charming chaps are threatening to break both your legs and then throw darts at you unless you come up with some loot, and rapidly. The game is peppered with attractive graphics and well weighted puzzles. Definitely a big thumper upper.

STF Rating - 87%

BALL BLAZER

Caledonia PDL - Disk GM 0040

This seems to resemble a game that was out on an 8-bit many years ago. The idea is to race a ball down a per-



Well, not so much *Die, Alien Blob* as *Die, Earth Being*. A quick laser cannon up the exhaust port and Spam Dare, corpse of the future, is a goner

spective track made up of different coloured tiles. Holes appear in the track and you can jump over them by pressing the Fire button. The different coloured tiles have a variety of effects on the control of the ball and this makes getting to the end of the track something of a feat. Gameplay is fast, furious and vigorous.

STF Rating - 90%

DIE, ALIEN BLOB

TRuST PD - Disk GAM66

Another games creator - the Shoot'em-up Construction Kit from Palace - has been used to create this nifty blaster. You control a small ship which is perfectly camouflaged as a red ball. You shoot everything in sight, try to get your name on the high score table and that's just about it. This is an okay game but the collision detection routine is less than ideal.

STF Rating - 72%

TRAX QUIZ

**Paradise Computers
- Disk GAM43SE**

Trivia fights back against the shoot'em-up brigade with this well programmed quiz game. The idea is to reveal four icons of the same colour on a four by four grid. Every square you click on



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has a different question to answer, and they certainly aren't giveaways. More fun here than first meets the eye.

STF Rating - 78%

DIZZY LIZZY 2

Paradise Computers - Disk BUD61SE

Budgie games are looking increasingly polished and professional. Budgie's latest offering is this *Boulderdash*-type game. The idea is to move Lizzy around a level and collect presents, while avoiding the sticks of dynamite and the falling snowballs. Considerable thought is involved in calculating just the right route through the level and the game is no pushover. Very Good (One Gold Star).

STF Rating - 92%



N.B.S. Public Domain Library

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- SD 538 Fish and Chips Demo Good coding, and a strange sense of humour!
- SD 542/543 European Demos 2 Disk set. Another Overlanders mega-masterpiece.
- SM 571/572 Def Leppard 2 Disk set. Full length quality sample of Switch 625
- SM 573 Phantom of the Opera Another Quality Digitization
- SD 528 Overlanders Delirious Demo I The Overlanders do it again. Amazing!
- SD 531 Syntax Terror Megademo The first I've seen from this group, impressive
- SD 541 Dark Side of the Spoon Unbelievable demo from ULM. Stunning GFX & Sound
- SM 535 Thalion Sound Demo Similar to the V8 music, but some are digitized
- SD 018 Universal Pictures Demo Fast solid 3D graphics from the Amiga (S/S)
- SD 539/540 Robocop Demo 2 Disk set. Good anim and sound from the film. (1 MEG)
- SN 513 Star Trek 'To boldly go' Enterprise animation from the series (1 MEG)
- SN 515 Cyber Sculpt Disk Animation Brilliant story of a disk (1 MEG)

STE ONLY DEMOS (All are Double sided and 1/2 meg unless otherwise stated)

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- ED 011 Fantasi STE Simply the best solid 3D demo on the STE (1 MEG)
- ED 012 Fingerbobs Tracker Player Lots of high quality STE only soundtracks
- ED 013 AXCEPT Sequencer Crisp & Clear sampled tune using STE's DMA sound (1MEG)

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- BU 024 Spaced Weller Intriguing puzzle game with colourful graphics
- BU 025 Colony and Op. Wimp Brilliant version of the classic Missile command
- BU 026 Dizzy Lizzie 2 4 Way scrolling puzzle game similar to Boulderdash

We now also stock a set of 10 instrument disks for Noisetracker, the latest POV compilation disks, a massive selection of doubled up disks (2 disks on 1 double sided disk). The latest Budgie quality games, and many other titles not listed here! See the "NEW" ST update for descriptions of all these disks and many more. Also available: for just £1.00 we will send you our new Catalogue disk which is being constantly updated with reviews of all the latest titles.

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If you have a Credit card you can phone or fax your order to us. Please remember to include 50p towards postage and packing to total order. All orders (up to 2kg) dispatched by first class post, please add 30p for recorded delivery. All used postage stamps donated to Guide Dogs for the Blind.

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Public Dominator, Atari ST/STe software

What is Public Domain?

Public Domain software is simply software that is allowed to be copied freely, since the authors have decided to share their programs with all users, for this reason software can be grouped together on disks which are sold at an equal price depending on how many you buy, when you buy any of the disks on this page you may copy and give them to anyone! each disk has a code number which is denoted with this symbol - • - what follows the code number is a brief description of what is on the disk, all the programs are fully working and most come with documentation on the disk. We will also give as much support as is reasonable.

Abbreviations Used

CSR - Colour Screen Required. MMR - Monochrome Monitor.

1MB - 1MB RAM required. DSD - Double Sided Disk.

TELECOMMUNICATIONS

- A85 - Infinity BBS this is the disk if you want to start your own Bulletin Board System.
- A48 - Uniterm v2.0c. Its many features include: Xmodem, Ymodem, Kermit, VT100, VT102, VT200 and much much more. Includes a full manual on the disk.
- A166 - Vanterm v3.71. It many features include: Xmodem, Ymodem, Compuserve B, auto dial, fully configurable etc.
- A176 - StarTerm V1.11 its many features include: VT52/100/102 terminal emulations, Viewdata, Xmodem etc. Includes manual on disk.
- A119 - Flying Start v1.04 1200/75 comms program for Prestel.
- A8 & •A18 & •A105 - Packet HAM radio software.
- A93 - Txt v2.0a teletext program.

APPLICATION

- MP7 - Home Business Pack: DSD. Datahandler and First Base 2 databases, STSheet and Sheet 2 excellent spreadsheets that include graphics and Lotus 123 compatibility, STWriter Elite the excellent word processor and Double Sentry the accounts package. All fully working and fully featured. A 3 disk pack for £7.50!
- A159 - Databases: Address book v1.21, Database, First base and Datahandler.
- A49 - STSheet spreadsheet.
- A72 - Personal finance.
- BP001 - CSR. Electronic Bank Statement accounts.
- A94 - Data handler v1.0 database. Context text editor. Magic Shadow archiver. Word Perfect Epson LQ800/850/1050/1500 printer driver.
- A96 - DSD. Sheet v2.0. spreadsheet.
- A108 - DSD. 1MB. B/Stat. sophisticated graph, stats analysis.
- A121 - Pools - Expert Results Predictor v2.5.
- W2 - STWriter Elite v3.6 word processor.
- W5 - Micro-emacs v3.925 text editor.
- MP21 - DSD. MMR. TeX the document processor and typesetting system. A 6 disk pack for £15.00
- A125 - DSD. 1MB. Opus v2.10 spreadsheet.
- A138 - Double Sentry v0.00 accounts.
- A165 - Network a simple network system.

FONT DISKS

- MP8 - GDOS GEM Font Pack contains well over 100 fonts, the GEM Font Master font editor and a PD version of GDOS. This is a special 3 disk pack for £7.50!
- MP9 - Calamus Font Pack 1 contains 30 fully working Calamus fonts on 3 disks for only £7.50!
- MP10 - Calamus Font Pack 2 contains 31 fully working Calamus fonts on 3 disks for only £7.50!
- MP12 - Signum Font Pack 1 contains 60 fonts for use with Signum. This is a special 3 disk pack for £7.50! DSD
- MP13 - Signum Font Pack 2 contains 58 fonts for use with Signum. This is a special 3 disk pack for £7.50!
- MP14 - Publishing Partner Font Pack contains 19 fonts for use with Publishing Partner. A special 3 disk pack for £7.50!
- A25 - MMR. Font Master excellent document processor.
- A60 - Fonts for Font Master on A25.
- A45 - Star ML10/LC10 font designer v1.1.
- A63 & •A64 - FontKit v3.31 an Epson, ST screen and Degas font editor.

EDUCATION

- BP010 - CSR. Classroom Maths for students age 7 to 12.
- G35 - MMR. Hypervoc and ST Dic 2 vocabulary trainers. Quiz simple multiple choice program, pauk very good quiz database.
- A47 - CSR. KIDsgraph, KIDsgrid2, KIDsmusic, KIDspiano, KIDsnates. Suitable for 4-5 year olds these programs are full of colour and sounds to get the child interested and learning very naturally.
- A100 - CSR. KIDpotatoe, KIDdabc, KIDsketch, KIDstory. Suitable for 4-5 year olds these are an excellent suite of educational programs.
- A101 - CSR. KIDsong. Numerical go round, Number maze. Suitable for 7-8 year olds these maths programs are excellent at teaching arithmetic with different stages.
- G47 - CSR. The History File, for the 12 years plus age group, this program is set in a historical adventure setting. You are a detective using data from the past and present you must build up a picture of a 19th century murder in Scotland.
- A73 - DSD. Flashcards 1 + 2 spelling.
- A132 - KIDcolor, KIDshape and Dot to Dot. For 4-5 year olds these colourful programs will delight your child when they see that they too can use the computer to create graphics.
- G76 - DSD. Treasure search.
- A177 - CSR. KIDshapes, KIDpuzzle. For 4 - 5 year olds more excellent educational programs.
- A188 - NOTSTE. CSR. Chemistry for all V2.0.
- A178 - CSR. NOTSTE. Can you spell.

NEW ST/STE USERS

- MP1: Starter Utility Pack: this pack was compiled with the new ST user in mind, to enable you to get just about all the utilities you may ever need, plus a wordprocessor, 2 databases and a graphic package. The pack includes: NEOMaster the excellent graphic package, STWriter Elite the brilliant wordprocessor, Firstbase and Datahandler the 2 databases plus the following utilities: ARC and ARCSHELL the brilliant file compressor, Private Eye the system info utility, IntaSect RAM disk, Printer Spooler, BIG colour emulator for monochrome monitor owners and Monochrome emulator for colour screen users, Virus Killer 2, picture converters, extended formatters to get more space on your floppy disks, time and date setters, clocks, RAM free, auto GEM for STFM owners who want to autoloading GEM applications and loads of other utilities. All this is available only from Public Dominator for the special pack price of only £7.50!

UTILITY DISKS

- A15 - STSWitcher will split an STs memory into 2 separate parts allowing you to use 2 programmes at once, autocopy - copies files into RAMdisk.
- A31 - 1ST Word printer driver files.
- A40 - Hard Disk 1: directory counter, GEMsoft a 40 folder fix, hard auto, sbackup, turtle backup v3.01 and unturtle restore v1.1.
- A52 - Hard Disk 2: folderxxx, an excellent directory lister, hard disk install, hard disk autoboot and other hd utilities.
- A172 - Hard Disk 3: the vault excellent hard disk backup program.
- A41 - Monochrome Emulator v5. CMFonts converts MAC fonts to ST GDOS format, deformator.
- A59 - Spell v2.3 spelling checker, Magic Shadow archiver - store, backup and create other disk formats including Atari ST, MSDOS and CP/M.
- A88 - DCFormat v3.03 THE ST disk formatter features extended formatting, MSDOS boot sector, and much more. Meg a Minute Elite v2.1, 1MB a minute HD backup, Megamatic v1.95 - boot utility.
- A90 - Superboot v6.0 THE ST boot program. Screendump24 v2.0 Alt/Help screen dump to Epson LQ800 or compatible.
- A91 - File Selector v6.0 replacement GEM file selector. Virus Killer v2.01, Filespy v1.0 file displayer.
- A97 - MMR. Sticker III. THE disk label program.
- STW 41 - FSelect v3/1989 by Martin Patzell the excellent alternative file selector. IConc allows you to design icons and assign them to a file, so that each file can have its own icon picture. Acache will speed up file access.
- A109 - Quick Disk, Quickfind v1.5, Quickindex v1.5, QuickST v1.2, Quickview v1.3, Quickinf v1.3, Quicklabel v1.1, Quickprint.
- A111 - Headstart v1.1 GEM auto booter, JClock8d, Manual maker v2.0 requires GDOS, Print it! and View it! Printmaster utility.
- A120 - Copiers: copy beef, super copy, copy v2, copy track, disk copy, nibbler and others. accent.
- A128 - Recover, Bootinfo allows you to put any text on screen at boot up. FSCK v1.1 the file system checker and repairer. Dvorak keyboard changer. GEMlabel v3.0, RateHD a hard disk performance checker. Undelete will undelete file that have been deleted.
- A134 - Boot Drive Select allows you to select a drive to boot from when you reset your st. the formatter v1.21, graf tool, chart maker, bootb a drive b booter. GOACC allows you to select desktop accessories.
- A136 - The British Telecom Inland Call Calculator v1.02.
- A157 - Custom Formattor, Boot Sector Storage.
- A158 - CSR. The Complete Amateur Astronomy Guide.
- A163 - Gemini desktop replacement. Excellent all English version of a replacement desktop similar to NEODESK. Includes the PD version of GDOS.
- A167 - BIG Colour Emulator very good colour emulator for monochrome screens.
- A168 - ARCSGH v2.1 a really good shell for any program.
- BP008 - Music Cassette Label Printer.
- A173 - ARC v6.02, ARC shell v1.98, LHarc v0.5b and v1.13, Turboarc, ARCit auto arcs and unarcs entire disks. Also unarc, unarcit and unzip.
- A174 - Dcopy v3.12, Bigscreen allows you to use GEM windows larger than the actual screen. Deckey how to plug in a dec keyboard. Filespy v1.2 file browser.
- A180 - MMR. DSD. Electronics disk contains lots of programs written in basic for students doing the bsc electronics course at Keele University.
- A181 - Interprint2 the ultimate printer controller. Printplus v1.1 prints 1ST Word documents.
- A182 - Expander expands a single sided disk to a double sided.

MedRES STE a fix to the medium res bub on STEs. Turbo ST speeds up your ST.

- A186 - DocDisp the best document displayer on the ST includes the feature to load picture file and a non case sensitive search facility. FCOPY 3.
- A190 - Database v1.0 an excellent database. Toxic Formatter v2.0. Batch the CLI.
- A191 - Video Manager v4.0 allows you to catalogue your videos.

GAMES

ALL games require a colour screen. We have got hundreds of excellent games disks which are detailed fully on our diskcat only £1.00!

- MP2 - Games Pack 1: DSD. Monopoly, Fruit Machine, Cribbage, Poker, Solitaire, Tunnel Vision, Reflex, Checkers, Devils Tomb, Death Star, Battle Ships, Zephyr and others. 3 disks for £7.50!
- MP3 - Games Pack 2: DSD. Star Trek, Tennis, Patience, Fire Storm, Laser Chess, Mile Stone, Azarian, Barn Yard, Space Invaders, Space War, Lunar Lander, Bridge It!, Race Cars, Monkeys and Balloons, Spectral Sorcery and Give Us A Break. A 3 disk pack for £7.50!
- G85 - Skate tribe. A very good skate board game.
- G86 - DSD. Tennis excellent full graphics tennis game. also on disk are card games: patience and poker.
- G93 - Jitterbug you move around a large area picking up things and killing things.
- G95 - Chance a good shoot 'em up.
- G96 - Mutant platform game.
- G97 - DSD. 1MB. The Star Trek game.
- G98 - Tracker shoot 'em up.
- G99 - Haunted Monastery platform game.
- G100 - Escape from the Tomb of RA platform game.
- G101 - Overlander good shoot 'em up.
- G102 - Key to Atlantis good shoot 'em up.
- G103 - DSD. Pop Eyed a 60's music trivia strip quiz.
- G104 - Rorkes Drift zulus and the british army. nova an excellent galaxians type shoot 'em up.
- G105 - Tile Games v2.0.
- G106 - The Name Game.
- G107 - Patience an excellent card playing game includes golf, little spider, calculation, siege, raglans and elevens.
- G108 - First Serve a tennis game.
- G109 - Stumped the cricket game.
- G110 - Yahzee the dice game.
- G111 - Stocks and Bonds a stock market simulation.
- G112 - Upstart a shoot the cherries up arcade game. excellent!
- G113 - Spaceballer an platform excellent game.
- G114 - The Rush is an excellent platform game.
- G115 - Bumper Jacky a great platform game.
- G116 - Zoltar a massive shoot 'em up.
- G117 - Fight Simulator.
- G118 - England Team Manager football game.
- G119 - NOTSTE. Bunny hunt.
- G120 - DSD. League Soccer football game.
- G121 - Top of the Pops record company simulation.
- G122 - NOTSTE. Heads and Hammers.
- G123 - Fuzzball and Bounce out 2 platform games.
- G124 - Motor cycle a good arcade type motorcycle game.
- G129 - Snakes and Ladders the game.
- G130 - MMR. DSD. Strabble an excellent version of the board game scrabble.
- G131 - Anagrams, you enter a word and it will show all the possible anagrams.
- G132 - DSD. Ditch Day Drifter a text adventure.
- G133 - MMR. Risky Construction Set v1.5. you create a fictious 'world' and have wars etc.

BUDGIE UK GAMES

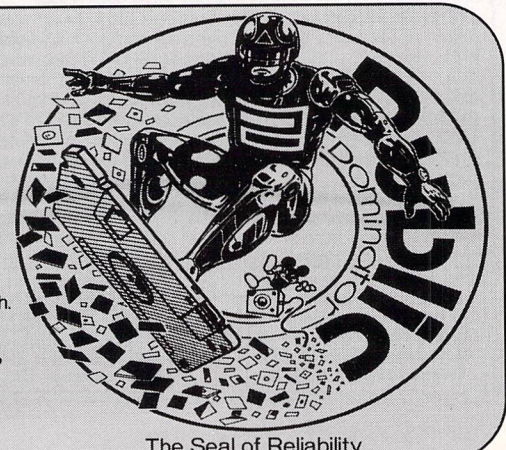
These games are licensware, for each one sold Public Dominator gives 50p to the author and there is no more to pay. All these games work on all ST/STEs and require a colour screen.

- B1 - Dameronid a good space game.
- B2 - Football 88 league simulation.
- B3 - Blitz II action shoot 'em up.
- B4 - Othello reversi board game.
- B5 - Pro Darts 501 down.
- B6 - DR Boris defuse the TNT bombs before they destroy you!
- B7 - Ball Zone the breakout game.
- B10 - Moneyspinner the slot machine.
- B11 - Maelstrom vertical scroll shoot 'em up.
- B12 - Ace invaders a master implementation of Space Invaders.
- B13 - Zenith arcade space battle.

Why Public Dominator for your PD software supply?

1. We have been trading in this field for 5 years so (unlike the majority of PD libraries) we know what's what when it comes to PD, this is proven with regular orders from every corner of the globe.
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Public Domain, Licenseware, Shareware

- B14 - Goldrush multi level platform game.
- B16 - Word puzzle generator.
- B17 - Make a break trivia quizz where you play snooker by answering the questions.
- B18 - Parabellum brilliant platform game.
- B19 - Tri Heli a mega must have faste game.
- B22 - Bandit the one armed bandit.
- B23 - Space Blob excellent platform game.
- B24 - Slippery Sid great maze game.
- B27 - Psicotif if it moves shoot it! Mega space game.
- B30 - A quest for galaxia a master implementation of Galaxians.
- B34 - Safe as houses monopoly game.
- B35 - Hostile reception Xenon type shoot 'em up.
- B40 - Dizzy Lizzy across between Pacman and boulderdash.
- B41 - Exodus superb graphics arcade game.
- B48 - XWPuzzle.
- B50 - Space Invaders and Detonator.
- B52 - IMB. Douglas Rockmoor the greatest ever impletation of Boulderdash ever! Brilliant!
- B53 - MMR. From Little Acorns.
- B56 - Super League Soccer.

GRAPHICS

- MP4 - Graphics Pack 1: DSD. CSR. ANI ST the excellent animation package, fully working allows you to create your own animations! Pearle the ray tracing package with full examples, Mini Paint the excellent fully featured painting package, NEOchrome the excellent painting program, and picture convertors. A 3 disk pack for £7.50!
- MP5 - Graphics Pack 2: DSD. CSR. Master Painter the excellent fully featured paint package that includes multiply screens, Colour Burst II the 800/3200 shades on screen at once paint package, Fine Line the drawing program, Fractal Zoom the most comprehensive fractal generator on the ST, the Atari Image Processor (IMB), MegaBlit the paint package, Studio and VanGogo 2 excellent paint packages. A 3 disk pack for £7.50!
- GR1 - CSR. NEOchrome Master v2.1 excellent graphic package.
- GR6 - Degas disk - 155 fills, 10 brushes, 7 fonts, printer driver files.
- GR7 - DSD. IMB. AIM v2.31 of the Atari Image processor gem based.
- GR14 - MMR. Public Painter v0.1.
- GR15 - DSD. IMB. MMR. JIL2D CAD drafting program.
- GR17 - Picture Convertors. print master/ degas convertor, neo/degas/tiny/iff /spec512 to neo/degas/iff convertor, img/aim convertor img/aim to postscript, mac gif stripper, spectrum 512 .spc/spu to gif convertor and spectrum 512 spc, sps and spu slide show.
- GR18 - MMR. Eplan an electrical circuit cad program.
- GR19 - DSD. Fractal Zoom v3.1 the most comprehensive fractal generation program available.
- GR20 - IMG utilities. 1. convert2img v0.9 converts any degas format, tiny, neochrome, macpaint, spectrum compressed and uncompressed to a monochrome .img format. 2. img quick view .img file viewer. 3. the .img slide shov1.1.
- GR21 - ANI ST the fully featured animation package.
- GR24 - CSR. Pearle the 3-D ray tracing package.

PROGRAMMING LANGUAGES

- L1 - 68000 Assembler, Xlisp, STLogo, Tiny basic.
- L2 - STBasic.
- L3 - Advsys adventure writer language.
- L4 - Forth83 programming language.
- L5 - PDC v2.0 compiler.
- L6 - Toy Prolog.
- L7 - Xlisp v1.7.
- L8 - Forth from bradley firmware.
- L9 - ST Icon v6.3, based on Snobol4.
- L10 - Little Smalltalk.
- L12 - C make. This is so like the unix make that you should read the unix documentation.
- L13 and •L14 Modula-2 development system v1.0.
- L15 - DSD. Sozobon c compiler.
- L17 - DSD. AGT v1.19 the adventure writer.

MUSIC DISKS

- M9 - Music Writer lets you create music on screen.
- M15 - The Accompanist MIDI 16 voice sequencer by Henry Cosh.
- M18 - DSD. Soundtracker player and Soundtracker modules converted from the Amiga.
- M19 - DSD. Soundtracker player and Soundtracker modules converted from the Amiga.

- M20 - DSD. Soundtracker player and Soundtracker modules converted from the Amiga. also documentation and some source code in 68000 and gfa basic on soundtracker formats and different frequencies.
- M21 - DSD. Noizetracker.
- M22 - DSD. Quartet samples disk 1.
- M23 - DSD. Quartet samples disk 2.

WORD PROCESSING UTILS

- W1 - CSR. Type It! The brilliant touch type tutor.
- W4 - Proff v1.0 very powerfull text formattor.
- W9 - Newsletter maker - allows you to make a GEM disk magazine.
- W11 - Postscript disk. PS prints 1ST Word document in postscript format. 1stw2ps as above but including 1st word plus graphics very flexible. snapshot - outputs hires screen to ps printer, choice of size, angle etc. and examples of postscript source code and utilities to control printer.

DEMO DISKS

- All demos require a colour screen.
- D122 - DSD. CSR. NOTSTE. The Union demo!
 - D123 - DSD. CSR. IMB. The Amazing Snowman demo.
 - D125 - DSD. CSR. NOTSTE. The Carebears Cuddly demos.
 - D128 - DSD. CSR. The Wattaheck demo.
 - D129 - DSD. CSR. The Swedish demo including sync and the carebears.
 - D149 & •D150 - CSR. DSD. IMB. NOTSTE. Delerious demo from the alliance.
 - BD1 - CSR. DSD. Mind Bomb the latest mega mega must have demo.
 - D158, •D159, •D160 - CSR. DSD. NOTSTE. Batman the movie demo. Excellent 3 disk full colour digitised demo of the film.
 - D162 - CSR. DSD. The lord of the disks 'Dragons lair' demo. excellent!
 - D176 - CSR. DSD. The Care Bears 'So what demo'. excellent!
 - D191 - CSR. DSD. 'Mini Run'.
 - D197 - CSR. DSD. Space Ace by Don Bluth. Amazing graphic animation demo of the game.
 - D202 - DSD. CSR. NOTSTE. Predator demo by The Islander. Excellent images from the whole of the film 'the predator'.
 - D207 - CSR. Snowman demo the 1/2MB RAM version. Excellent!
 - D210 - CSR. IMB. DSD. The Star Wars Walker I demo excellent.
 - D213 - CSR. IMB. DSD. The Star Wars Walker II demo.
 - D221 & •D222 - DSD. CSR. NOTSTE. IMB. Dragons Lair demo by IRS animated scenes from the game Dragons Lair.
 - D236 - DSD. CSR. Inner Circle Decade demo.
 - D237 - DSD. CSR. Stealth bomber animation and preview of Vertial Reality 3d.
 - D240 - DSD. CSR. Star Trek The Enterprises leaves dry dock demo. also 2 excellent animations of the Reliant flying through space.
 - D243 - CSR. Trans Beauce party demo.
 - D244 - CSR. DSD. Phalanx overdrive demo.
 - D247 - CSR. The Lost Boys Life's a Bitch demo.
 - D249 - CSR. DSD. Animations: the juggling clown, lock on fighter, marilyn monroe talking, micrmag, sunglasses and trucking.
 - D250 - CSR. DSD. IMB. Animations: the barbers shop, walking foreman, channel 4 logo and unicycle.

STE DEMOS

- These demos will only work on an Atari STE
- D144 - CSR. The Official Atari France demo!
 - D214 - CSR. Sound OFF.
 - D228 - CSR. IMB. AN COOL from The Care Bears demo.
 - D229 - CSR. IMB. The Jungle demo!
 - D230 - CSR. Movie shows off the stereo sound and the blitter chip.
 - D231 - CSR. IMB. BOING - a bouncing ball with colours scrolling through it and the sounds of Axel-F
 - D232 - CSR. IMB. Fontasia, sounds of The Cure and excellent graphics, press the HELP key for instructions.
 - D233 - CSR. IMB. 3D Scroller, sounds of The Cure and very colourful scrolling message, actually scrolls from the bottom of the screen to the middle then straight up and out of the top! With bouncing bobs and all!
 - D234 - CSR. IMB. Psychedelik House II By The Overlander. Aciid!
 - D251 - The Black Cats STE demo excellent!
 - D252 - The 2nd French STE demo brilliant!

Clip Art

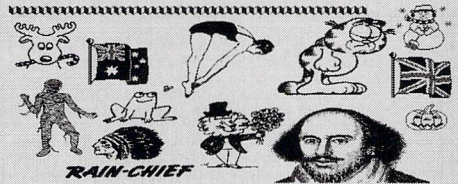
The following 4 packs of clip art are disks that are filled with black and white images that would be suitable with all graphic and desktop publishing packages.

The Images are complete and copyright free.

Clip It! Volume 1. £12.50!

Hundreds of clip art images on 5 disks all in Degas format suitable for all graphic and desktop publishing packages. Subjects covered: sports, flags, animals, cartoons, humorous, Xmas, Jewish, borders, Halloween, Valentines, horses, eyes, alphabets, hands, 1930's trademarks, zodiac, cars & more.

Here are some examples:

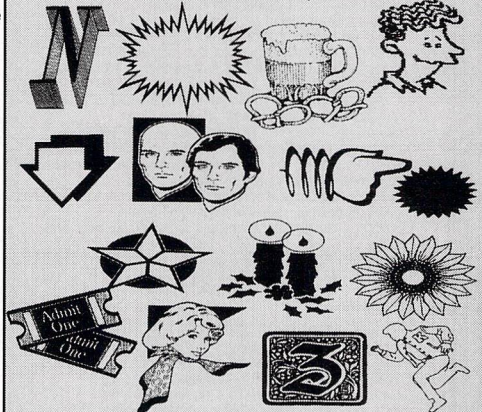


Clip It! Volume 2. £12.50!

Hundreds of clip art images on 5 disks all in IMG format suitable for most graphic and desktop publishing packages. Subjects covered: men, women, illuminated

A to Z, arrows, stars, explosions, humorous, cartoons, pointing hands, food & lots more.

Here are some examples:

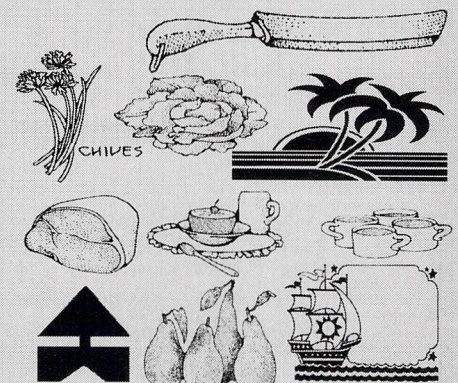


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Hundreds of clip art images on 5 disks all in IMG format suitable for most graphic and desktop publishing packages. Subjects covered: Fruit, Herbs, Meat, Arrows, Special Occassions, Vegetables, Kitchen Utencils, Cups and Glasses,

Art Deco and Breakfasts.

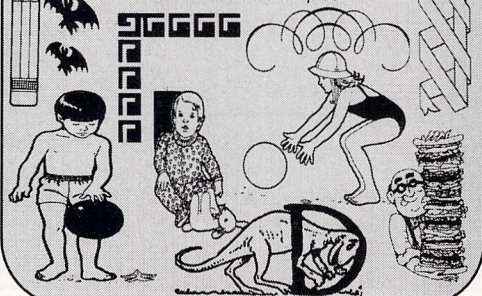
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To order, simply quote the disk code number.

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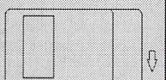
1 to 5 are £3.00 each,
6 to 10 are £2.75 each
11 or more are £2.50 each

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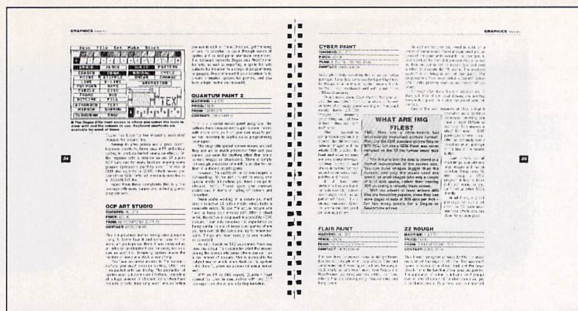
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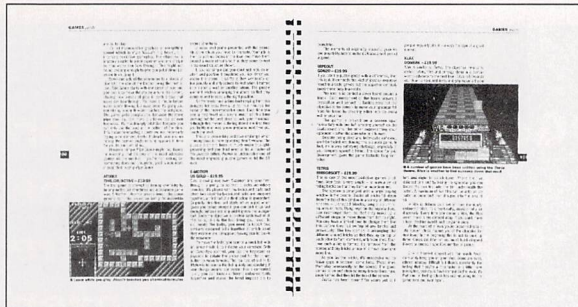
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"The most comprehensive compilation of ST hints, tips, cheats and buying guides ever published!"

GET THE MOST OUT OF YOUR ST, written by *FORMAT* Editor, Mark Higham, reviews the wealth of software and hardware designed for your ST, including technical tips and game cheats which never made it into the pages of *ST FORMAT*.

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If you can't afford to buy the professional packages, how about taking a dip into the Public Domain? *GET THE MOST FROM YOUR ST* lists all the best PD software across all fields to help you discover where your interests really lie without breaking your bank manager's heart. There's also a comprehensive guide to Britain's best ST Public Domain libraries.

But the book is more, much more, than just reviews. It also *explains* all those weird word processing and DTP terms, *describes* what equipment you need to build your own (remarkably cheap) recording studio and *details* the merits of different programming languages.

Then, when you get your software home,

refer to the tips sections and find out how to get the very most from your software and hardware.

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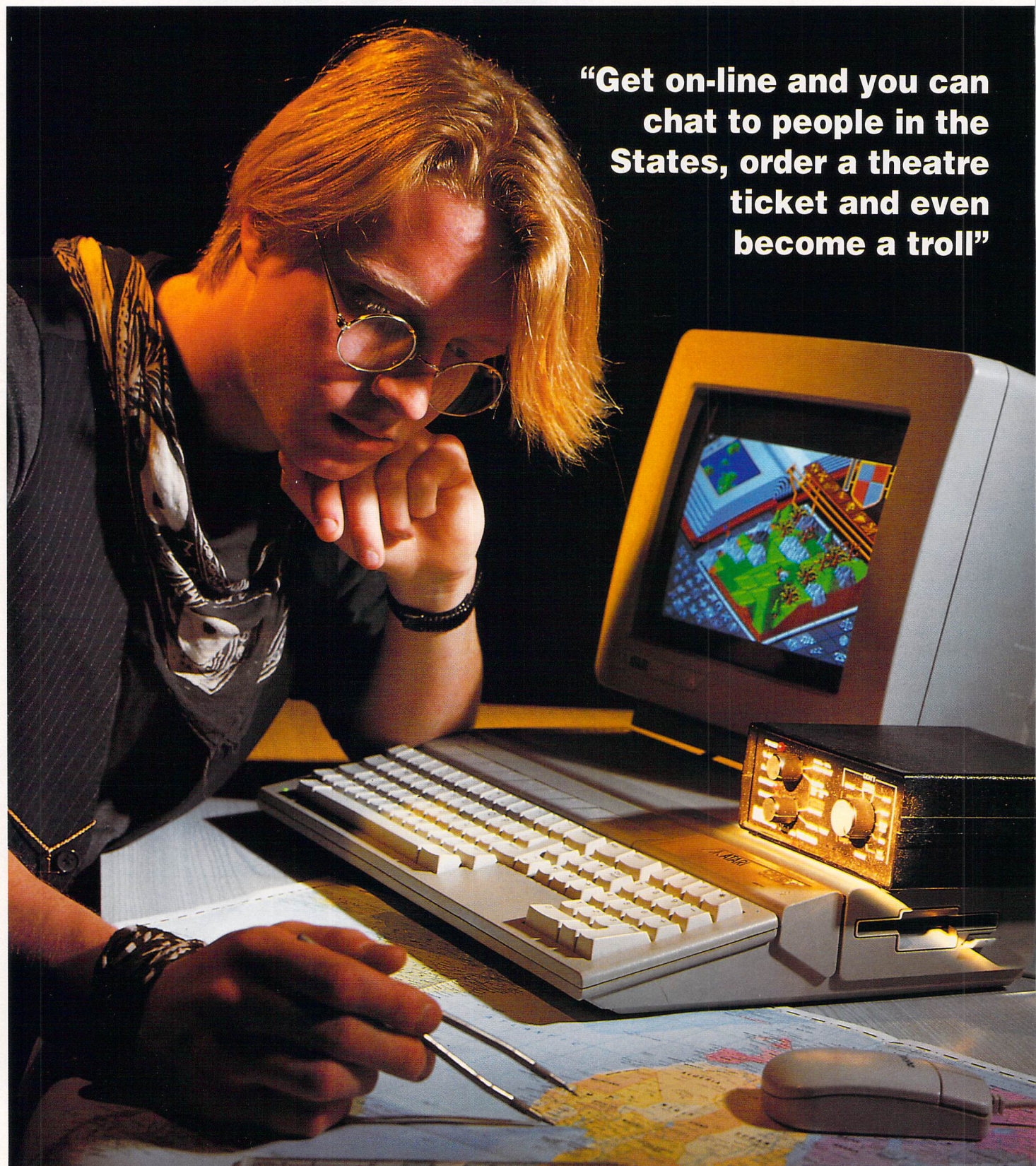
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COMMS *get on-line!*

Talk to t

Bits, bauds, bytes and bulletin boards. Wielding modem and RS-232 lead,



**"Get on-line and you can
chat to people in the
States, order a theatre
ticket and even
become a troll"**

he world

Andy Hutchinson explores the wonderful world of ST communications

The sentiment that it's a small world has never been truer than in this, the information age. The computer has revolutionised the way we talk to each other forever. Distance means nothing – you can transmit ideas, messages, memos, greetings, software, pictures and sound around the world with nothing more than an ST and a modem.

Nevertheless, you may be left feeling completely bewildered about just how you go about making use of communications technology. If so, then bear this in mind – the most important element in electronic communications is your ST. Think of your ST as an intelligent but reclusive link with the outside world. It likes to talk to other computers, but it speaks a different language. What you need is a translation device, the most popular being a modem.

A modem (short for *modulator/de-modulator*) acts as the bridge between your ST, the phone line and other computers. It takes the signals you transmit, converts them into a reduced, easily transferable form and squirts them down the phone line to the other computer. Then when the other computer replies, it reverses the process and your ST shows the information on-screen.

There's a plethora of sophisticated software available which takes the hard work out of getting on-line. If you can find your way around GEM, then you can run a comms program. If you can run a comms program, then you can pay your bills, check out the weather, chat to people in the States, order an airline or theatre ticket, become a troll or consult the British Library's catalogue – all from the comfort of your own home or office.

ON-LINE SERVICES

So just how many computer services can you access? There are literally thousands of computers out there which your ST can converse with. However, there are certain main services invaluable to anyone who wants to stay in touch.

CompuServe

Few computer networks are as big as CompuServe. It's American and it was one of the first to offer realistic electronic mail right across the States. Logging on to CompuServe is now a lot easier for a British ST owner because of the introduction of Istel. This operates as a bridge across the Atlantic and means that you only have to telephone a local computer – it then rings America for you.

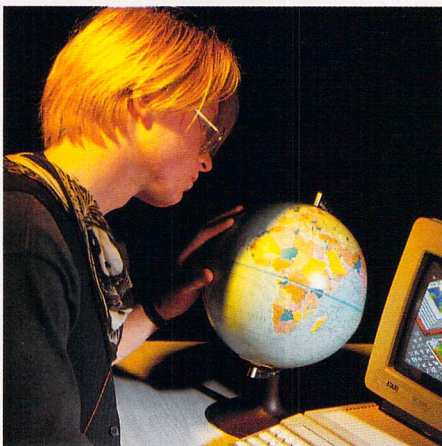
CompuServe contains information on a massive variety of subjects. Every taste and need is catered for. Just check out these examples.

- Human Sexuality
- ST Productivity forum
- Astrologers club

- Cooking forum
- Satellite maps section
- CB Simulator
- Shopping mall
- Commodities guides.

Information on CompuServe is arranged primarily in "forums." These are sub-sections of the network with specialised information. The Atari Productivity forum, for example, contains files, news and conferencing facilities. These files can then be downloaded (or transferred) onto your ST using your own comms software.

Navigating around CompuServe is simple. You simply type GO and then the name of the forum you want to enter. If you want to get a file from the Atari Productivity forum you simply type GO ATARIPRO. If you're a new member you are then prompted to join the conference. There's no extra charge for joining these special-



■ Whatever your ST interests, from share-dealing to programming to role-playing, going on-line can put you in touch with other enthusiasts around the world

ist forums, so they're well worth checking out. The Atari forums have a phenomenal amount of software just waiting to be downloaded. 20 of the biggest American hardware and software companies have their own "vendors forum." Gribnif, who wrote *Neodesk*, upload updates and add-ons for their software straight into the forum. You can then simply download them straight onto your ST.

An Atari Arts forum caters for the more creative ST user. Here you find pictures, utilities and complete programs aimed at the art loving ST owner. There's a Degas picture library and Cyber library, for instance. The Atari Productivity forum deals with the more technical side of ST life. Here you can find libraries devoted to desktop publishing, comms software and MIDI software, among many others.

One of the most powerful aspects of CompuServe is its conferencing facilities. Special interest groups can all log on together,

enter an electronic hall and chat with each other. Sam Tramiel, boss of Atari, recently held an on-line conference and was joined by 150 ST users. It's quite feasible that *ST FORMAT* could hold their own on-line conference and enable American readers to get in touch.

An interesting development on CompuServe is the CB simulator. This realtime chatting service is exactly what it sounds like – an electronic CB. You enter a handle, pick a channel and get talking with users from all over the world. Every taste is catered for on the CB. Channel 1 is for adults, channel 17 for

"Information on CompuServe is arranged primarily in 'forums' – sub-sections of the network with specialised information"

teenagers and channel 10 for people with (ahem) broader tastes.

Each CompuServe user has a unique number. *ST FORMAT*'s is 100012, 2571. Using this you can send mail to people all around the world. What's more, you can upload and read files or simply store them in your "mailbox."

You needn't just use CompuServe for its Atari sections either. The news section for example is linked straight into the Associated Press wire. This means you can get news from around the world almost the moment it happens. If you're more interested in business applications, then check out the financial forums – you can have the shares, commodities and exchange rates scrolling up your screen as they change.

■ For more information on CompuServe call ☎ 0800 289458

HOW MUCH IS IT?

If you want to subscribe to **CompuServe** ring their British office on ☎ 0800 289458. It costs £19.95 to subscribe initially. On-line charges are \$21.50 (about £12.50) per hour for the Istel link and the actual American on-line time. Of course you also have to pay for the phone call to your local node.

To subscribe to **Micronet** and **Prestel** sets you back £35.25 per quarter. Connect charges are free at off peak times (6pm-8am Monday to Saturday and all day Sunday) but otherwise it costs you 8p per minute. What's more, once you subscribe you're entitled to a copy of the quarterly magazine, *Log On*.

Electronic mail and incoming Telex messages are free but outgoing Telex costs depend on how much text you're dealing with. This starts from 50p per page.

STEP-BY-STEP GUIDE TO LOGGING ON



You've taken the modem out of its box, plugged the RS-232 lead into the modem port and switched on. Now what? First of all, get hold of some comms software. We use *Vanterm*, a Public Domain program. It appeared on *FORMAT* Cover Disk 17, so odds are that you already have a copy. If not, turn to page 138 for the *FORMAT* back issue service – or try your local PD library (see directory, page 95).

Run *Vanterm* and the first thing you see is the front end of the program. From here you can perform a mass of off-line functions – configuring the program, transferring files and performing disk functions. The first thing to do is load up the *Vanterm* Configuration file. You can find it on this month's Cover Disk (turn to page 38 to see how to load it up). Simply pull down the Config menu in *Vanterm*, then click on "Load Configuration." The dial directory is now full of numbers for you to try out.

As an example, try dialling the Bath BBS. A word of warning, though: if it's your parents' phone make sure you have their permission first. Move the mouse pointer up to "Dial" and click on "Dial Number." A new screen showing all the numbers available now appears. Click on Bath BBS and if your modem has an auto-dial facility (most do nowadays) it then calls the number.

After a few seconds, providing the board isn't engaged, the message "Connect" and a baud rate should appear. The intro screen

should then scroll up. Since you're a new user you now have to go through the registering process. After this you're given some access time and an ID number with which to wander around the board.

Try downloading a file now. From the main menu of the board, press F to enter the file transfer screen. Hit L to list the files and then press <Return> at the "*" prompt. Now choose library number two and hit <Return> again. You now start seeing files scroll up the screen. When you see one that takes your fancy, hit the X key and choose the Y-Modem file protocol. When the screen says "Start your transfer," click on the right mouse button and move the pointer up to "File Xfer."

Click on the Y-Modem receive. The program now asks you where you want the downloaded file placed, so click on the appropriate drive/folder and then on "OK." Now hit <Return> once and the file starts downloading. When it's finished you're prompted to hit a key. You can then return to the file transfer section.

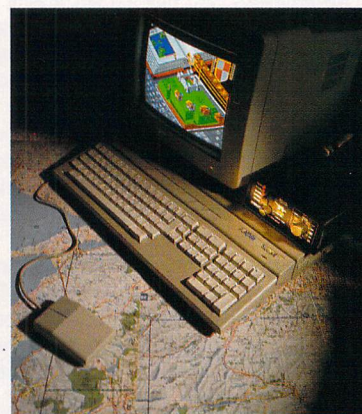
When you want to end the session, press either B or D and you're asked if you want to leave a message to the sysop. When the host computer prompts you to "Disconnect now," press the right mouse button, move up to "Functions" and then click on "Hang up."

■ Also on this issue's Cover Disk: **STD Code Finder** database – see Disk pages, beginning page 38, for details. Note that you need *Vanterm* to run *Vanterm* Config

you want to subscribe to Hoare Govett, you can actually buy and sell shares from your ST. This is certainly better than having to get on the phone to a broker.

Micronet is one of the most popular forums for micro users in the country. Considerable space is devoted to reviews of software and hardware, and there's comment from experienced users. An electronic on-line game called *Shades* enables you to interact directly with other adventure-playing fans. You can even save your computer character. This enables you to get on with the game – improving your rank, from lowly serf to mighty wizard. Software is also included in the database. This can be Public Domain or demos of commercially available packages, meaning you can try before you buy.

■ For more information on Prestel and Micronet, phone free on ☎ 0800 200700



■ With a modem and PD software, your ST can put you on the map!

➤ Prestel

If you can get Ceefax on your television at home, then you should be familiar with the layout of Prestel. It's a similar kind of viewdata service with the same colour and blocky graphics. Within Prestel there's a special computer section called Micronet which has news, views and information about the ST.

Prestel, in conjunction with Telecom Gold, is the most popular medium for sending electronic mail in this country. Celebrities such as Prince Philip have found it invaluable. The system is very ST user friendly too. To access the information you're interested in, you simply type in the page number indicated in the general index.

Commercial companies make considerable use of Prestel. If you've ever seen a travel agent book a holiday, you've seen the system in action. Anyone can use it to book airline or the-

atre tickets, check out the sports fixtures, see what's on the box, or find out a new recipe.

The travel industry has its own sub-section in Prestel called Prestel Travel, the agricultural community has a similar section called Farmlink and the insurance services sector has BTIS. In addition, catalogue firms such as Littlewoods have on-line purchasing sections where you can shop for items and input your credit card number to have the goods sent to your house – who needs to go out!

The financial community has its own sub-section called Citiservice. This enables you to view equities, gilts and traded options via SEAQ, the equivalent of the stock exchange's own TOPIC system. Professional brokers provide on-line expert analysis of shares and commodities. Most of these companies charge a nominal fee for the advice, although Cooke Lumsden are an exception to the rule. If

"Prestel is the most popular medium for sending electronic mail in this country"

Cix

The great thing about the communications revolution is the different ways people are using the technology to provide on-line services. Cix is one of the most remarkable services available in this country. It came about because of the restrictions of home grown bulletin boards. More than just a reservoir of PD programs, it's a meeting place for computer enthusiasts.

Cix is arranged in a large number of "conferences," covering a huge variety of subjects – everything from public toilets to getting the most out of your model aeroplane. Subscribers simply leave a message on any subject which takes their fancy and other people can then reply. To access a conference you type "join"

FORMAT GUIDE TO THE BEST BUYS IN THE WORLD OF COMMS

Best Buys: Hardware

Amstrad SM2400 Quad Standard Modem

This is the modem we use in the *ST* *FORMAT* offices. It's auto-dial and auto-answer and runs at up to 2,400 baud. The unit is very reliable and conforms to Hayes standards for software and modem communications.

■ Available from Evesham Micros ☎ 0386 765500 at £249 (inc P&P)

SupraModem 2400

A very neat, compact unit. It's a full 2,400 baud standard modem, Hayes compatible. This means it runs fine with industry standard software.

■ Available from Surface Ltd ☎ 081 566 6677 at £149.99 (inc P&P)

Fax/Modem

Very nifty idea, this. Combine your modem with a fax and get the best of both worlds. The modem part is fully Hayes compatible and has both

auto-dial and auto-answer facilities. The Fax part can only send, not receive, but can transmit pages straight from your ST's screen.

■ Available from Ladbroke Computing ☎ 0772 203166 at £200 (inc P&P)

Best Buys: Software

Vanterm is the best comms package around. It was yours *free* on *ST* *FORMAT* Cover Disk 17. To order back issues, see page 138. If you want just *Vanterm*, not everything else Issue 17 has to offer (tsk tsk), any good Public Domain library stocks it – see *FORMAT*'s directory, page 95. The program comes complete with a comprehensive help facility and supports X,Y and Z-Modem protocols, as well as Shadow, CompuServe and ASCII.

Uniterm is the package favoured by the experienced comms user. It's a more complicated program to work your way around but has more features than *Vanterm*, and this too is available from the Public Domain.

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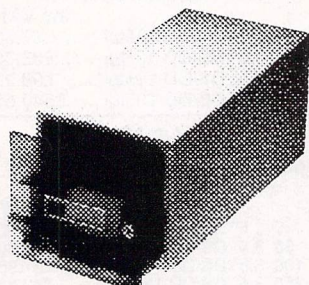
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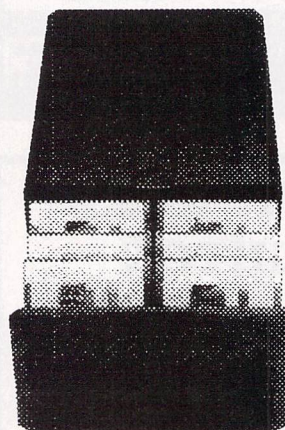
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followed by the name of the conference. You can then step backwards and forwards through messages or leap straight to a certain position and input your message. Just type "comment" and enter the text. If there's nothing you like the look of, Cix enables you to start up your own conference – with you as the moderator. With this service you can quickly find yourself in daily contact with hundreds of people.

You can send electronic mail to any Cix user. You simply type "send" and the user's name and then enter your message. The next

"Cix is more than just a reservoir of PD programs – it's a meeting place for computer enthusiasts"

time the user logs on, he is told that he has some mail and can then read it. You can also download these letters onto your ST. You can even write letters on your word processor and then upload them onto the database.

Each topic or conference can have files associated with it. If the conference is on desktop publishing, for instance, there may also be a series of examples, utilities, updates or images ready for you to download. To see all the files associated with any one topic, you simply type "flist." You can then display detailed information about all the files on-screen and then analyse

them. Some of these files may be archived so that they take up less data space, but you can similarly view or download the contents of these archives if you want.

If you yearn for a bit of real chat with another ST owner, you can enter the Chat section of the database. From here you can confer in real time with people who are logged on at the same time as you. The messages you type in can either be read generally or sent privately to a particular chatline user.

Cix isn't restricted just to this country. Using the Usenet facilities, you can send messages right around the world. The Usenet section is split into a series of newsgroups, with messages, views and information from global Cixers. These messages often end up in on-line newsletters such as Z-Net or ST Report.

■ **For more information about Cix call ☎ 081 390 8446**

BULLETIN BOARDS

If services such as Cix or CompuServe are run by professionals, bulletin boards are definitely run by hobbyists. Bulletin boards are small on-line services run by computer enthusiasts from home. Very rarely do they charge you to log onto their computers – they run BBSs because they enjoy chatting with fellow enthusiasts.

There are a great many bulletin boards catering exclusively for the ST user. This means that there are always messages, news and files waiting to be accessed. More often than not it's

the very cheapest way of getting software or news – and they're constantly updated, so it's easy to stay in touch with them as well.

The files held on a bulletin board are either Public Domain or Shareware. It's here where you can find many of the programs we include on the ST FORMAT Cover Disks. You can download any number of these files, though the whole idea of a bulletin board is to put back as much as you put in, so be prepared to upload as well.

Since most bulletin boards enable only one user to log on at a time, the message base is the only way to keep in touch with other users. These messages can either be global (aimed at all the users), or private (aimed at one person in particular). This means E-Mail needn't cost you an arm and a leg.

Calling a BBS is an excellent way to get started in comms. Simply turn to page 104 for *FORMAT's* step-by-step guide to logging on. Go ahead! The world is waiting to talk to you! **stf**

SPEAK TO FORMAT

Think you could cope with talking to the *FORMAT* crew? If you've got a modem and some comms software, you can give us a bell using your ST, in one of three ways.

- Bath BBS (☎ 0225 840060): Simply leave a message for *ST FORMAT* when you log off from the board. Alternatively you can place a message in *ST FORMAT's* message base
- CompuServe: E-Mail us on 100012, 2571
- Cix: E-Mail us at ANDYJPH

JARGON BUSTERS: *FORMAT's* GUIDE TO THOSE TECHIE TERMS

ANSI: American National Standards Institute. An American standards setting body (like BSA). Determine which bit patterns relate to which ASCII character

Auto answer: A facility built into up to date modems. It means the modem can operate unattended, enabling it to receive calls. Abbreviated to AA in some modems

Auto Baud: If a modem has this facility it can detect the appropriate baud rate of the remote computer calling you and set itself up accordingly

Auto Dial: Modems with this facility can send pulses or tones down a phone line for you. Simply type the number into your comms package and it does the rest

BABT: The British Approvals Board for Telecommunications. It is legal to connect only modems bearing the BABT logo to Telecom phone lines

Baud: Speed of data transmission is termed baud rate. Literally translates to bits per second down the phone line. See V21 etc

BBS: Abbreviation for *Bulletin board*

Binary file: non-text files, such as programs or graphics, are binary files

Bit: Abbreviated from binary digit. Represents a single digit in a binary number

BPS: Bits per second, another term for transmission speeds. See *Baud*

Bulletin board: a public access board, containing files and information – usually run by hobbyists

Carrier tone: This is the high pitched squeal which tells your ST that the remote computer is ready to transmit data down the line

CCITT: The European communications standard – as opposed to Bell, which is used in America

Checksum: This is a verification method for making sure that data is transmitted in its correct form

Conferencing: The electronic version of a face-to-face meeting

CRC: Cyclic Redundancy Check – a very widely used method for detecting data transmission errors

CTS: An RS-232 signal line. Short for Clear To Send

DCD: An RS-232 signal line. Short for Data Carrier Detect. This means your modem is in communication with the host computer

Download: To transfer a file from the remote computer to your ST. See *Upload*

DTR: Data Terminal Ready. Means both the computer and the modem are ready to transmit

Duplex: Either full or half. If you are sending at half duplex you can send only one way at a time. Full duplex means both ST and host computer can talk at the same time

Electronic Mail: This involves sending and receiving messages for a remote user. You can read these on-line or download them for later use

Gateway: A link between two services. Prestel has a gateway to Telecom Gold, enabling a Prestel subscriber to send E-Mail via Telecom Gold

Hayes Compatible: An industry standard. You can control a Hayes compatible modem via software running on your ST

Host: The remote computer your ST is talking to

Kermit: This is a file transfer program from the Public Domain. Most commercial services and bulletin boards support the package

Line Noise: If a phone line is weak, the computer's signal is interfered with. As a result spurious characters appear on-screen. These are only a problem when they occur during data transmission/reception

Log off: To end a session with a remote computer

Log on: This initiates a session with a remote computer. You enter identification numbers and passwords at this point

Mailbox: Host computers which offer E-Mail allot you a mailbox – analogous to a folder in your ST's memory – into which goes all your mail from other users

Modem: Short for modulator/de-modulator, the hardware device linking your ST to the phone line. It encodes and decodes your messages into a form it can squirt down the line to the computer at the other end

On-line: The period during which your ST communicates with a remote computer

Parity check: A widely used error detection method. The system can detect single bit errors, but can't handle pairs of wrong bits

Protocol: To get two computers to talk to each other, you have to set them up in a similar way. The most common protocol is RS-232 setting: eight data bits, no parity, one stop bit

Pulse dialling: This was the original method telephones used to dial a number. Recognisable by its familiar "clicks," it's slow and British Telecom are slowly phasing it out. See *Tone dialling*

RTS: An RS-232 signal, short for Request to Send

RXD: Abbreviated from Receive Data. This means that the host computer is sending to your ST

Split speed: This is when the baud rate for receiving data is different from that used to send. Used to minimise on-line time mainly on systems such as Prestel where you usually receive more than you send

Tone dialling: A relatively new system. When you dial a number using tones, each digit has its own slightly different frequency. It is fast and offers opportunities for telephone to computer communication

TXD: Transmit data. This indicates that your ST is sending information

Upload: To transfer a file from your ST to the host computer. See *Download*

V.21: The CCITT standard for data transfer at 300 bits per second (bps) in both directions

V.22: The CCITT standard for data transfer at 1,200 bps in both directions

V.22 bis: The CCITT standard for data transfer at 2,400 bps in both directions

V.23: The CCITT standard for data transfer at 75 bps one direction and 1,200 bps in the other

V.42: The CCITT standard for data transfer at 4,800 bps and beyond

X-Modem: A file transfer protocol widely used by both bulletin boards and commercial on-line services

Y-Modem: Faster than X-Modem and more reliable

Z-Modem: Fastest file transfer protocol yet – but not terribly well supported by host computers

Now we know!

Thousands of you took the time and trouble to return your Questionnaire forms. After weeks of typing in all the results, your friendly Editor can now reveal exactly what YOU want to see in future issues of ST FORMAT

Before I start blinding you with statistics, can I first say how grateful we are to all of you who returned a questionnaire, offering suggestions on how we can continue to improve ST FORMAT. We had several thousand returns – and since there was no prize on offer, that goes some way to showing how committed you all are to ST FORMAT. We've studied all the questionnaire results in great detail and we're already in the process of implementing many of your suggestions, so expect some exciting features in forthcoming issues.

Now on to the results. There are some fairly surprising conclusions. First off, ST FORMAT readers are older than your average computer magazine buyer. 50.5% of our readers are 25 years and older, while two thirds are 19 and over. 3.5% of you are over 60 years old. You're also an affluent, hard-working bunch, with 38% of you earning over £200 a week and 10% of you earning over £400 a week.

Our question about machine ownership reveals that 70% of you own a 520 ST, while 38% of you own STs with more than 1MByte of memory. Only 6.5% of you still own a single-sided ST, compared with 15% in last year's survey, suggesting that most of you have now upgraded to a double-sided machine. Atari's problems with the STE don't seem to have put you off: 23% of you now own an STE.

As far as hardware goes, 88.5% of you own a joystick, 61% have invested in a printer and 47.5% of you own a monitor – figures which

aren't that different from last year's questionnaire. Top of your shopping list for 1991 are memory upgrades, with 31.5% of you intending to invest in extra memory. 28.5% of you intend to buy a second disk drive during the year, 27% of you are looking to buy a printer and 20% of you want to buy a hard drive.

You all seem to use your ST for a variety of purposes. 77.5% of you intend to buy games

“Top of your shopping list for 1991 are memory upgrades, followed closely by second disk drives”

through 1991, while 96% of you admit to playing games on your ST. 88.5% of you use your ST for graphics, while 87% of you use it for wordprocessing. 76% of you make music with your ST and 72% even experiment a little with an occasional foray into programming.

This suggests that the ST is something of a Trojan horse. Many of you seem to buy the ST for a specific purpose and then realise the vast range of other applications available. For example, game-players buy the ST originally to play games but as soon as you realise the power of your machine you quickly develop into different areas, perhaps moving in the direction of music or graphics or even just using it to wordprocess your letters and reports. This is great news, since ST FORMAT is founded on the conviction that ST owners aren't just game-players or just “serious” enthusiasts.

We asked how you'd allocate space on the Cover Disk. A whacking great 33% want to see more PD programs. 15% of you want to see game demos filling the space and 11% of you want to see music programs on there. Reader contributions weighed in at 10.5%.

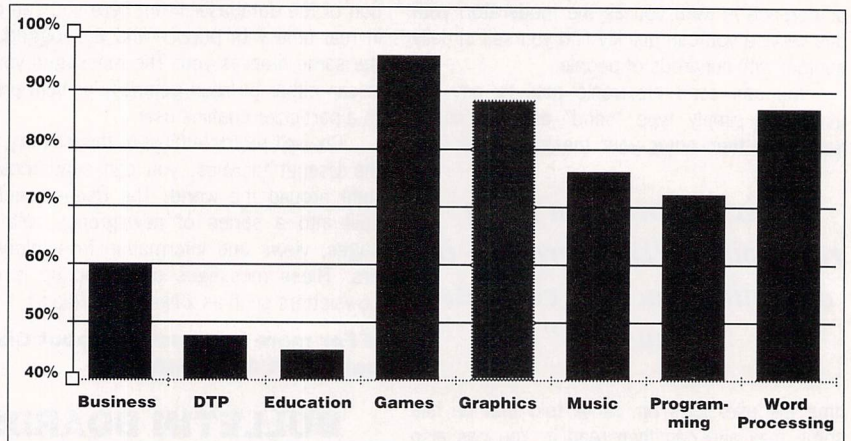
Judging by your ratings of the regular sections in ST FORMAT, we seem to have the balance about right for most things. However,

54.5% want to see more PD in the magazine and 57.5% of you want to see more competitions. (Turn to page 144 to see how we've improved our competitions – and if you have any comments or suggestions about the page, drop us a line. We'd like to hear from you.) 36.5% of you are looking for more serious software comparisons.

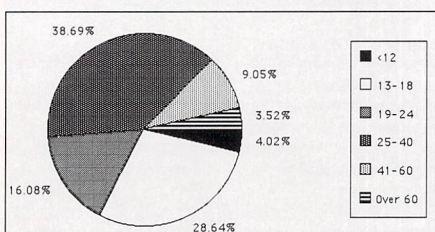
We also asked you for the kind of features you would ultimately like to see in future issues of ST FORMAT. Beginners features came out on top, with 39% of you eager to see more areas of the magazine catering for newcomers. 29% of you want to see an increase in programming features. Serious software comparisons and hardware round-ups weighed in at 36.5% and 26.5% respectively.

Finally, you gave ST FORMAT a very healthy rating of 8.55 out of 10 – better than last year's result, but there's still room for improvement. Keep watching this space to find out how we respond to your suggestions. Thanks once again to everyone who took the time to fill in and return the Questionnaire forms. **stf**

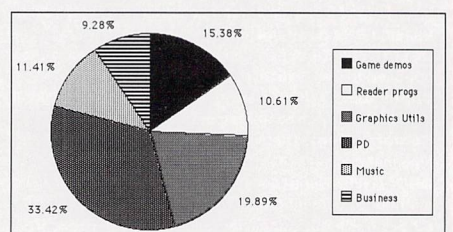
■ We're always happy to hear any ideas you might have for making the magazine even better, particularly if you have any specific thoughts about features you would like to see in future issues for example. Write them down and address your letter to What I'd do if I were you, Mr Editor, Sir, ST FORMAT, 30 Monmouth Street, Bath, BA1 2BW.



■ This graph represents the way you allocate your ST to different uses. A pretty staggering 96% of you use your ST to play games, while 87% use it for word processing. You can also see that 72% get involved with programming (see page 111 for our special Bullfrog series on programming in assembly language)



■ Here you can see the age range of the reader survey expressed as a pie chart. Most of you fall into the 25-40 years old category and earn well over £200 a week



■ This pie chart illustrates what you all would like to see on future Cover Disks. PD programs score highly, but what's wrong with readers' own contributions?

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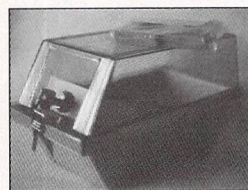
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Presenting **PROTEXT 5.0**

Five years to the month after Protext version 1 was launched Arnor are pleased to present version 5, an enormous leap forward in both ease of use and performance.

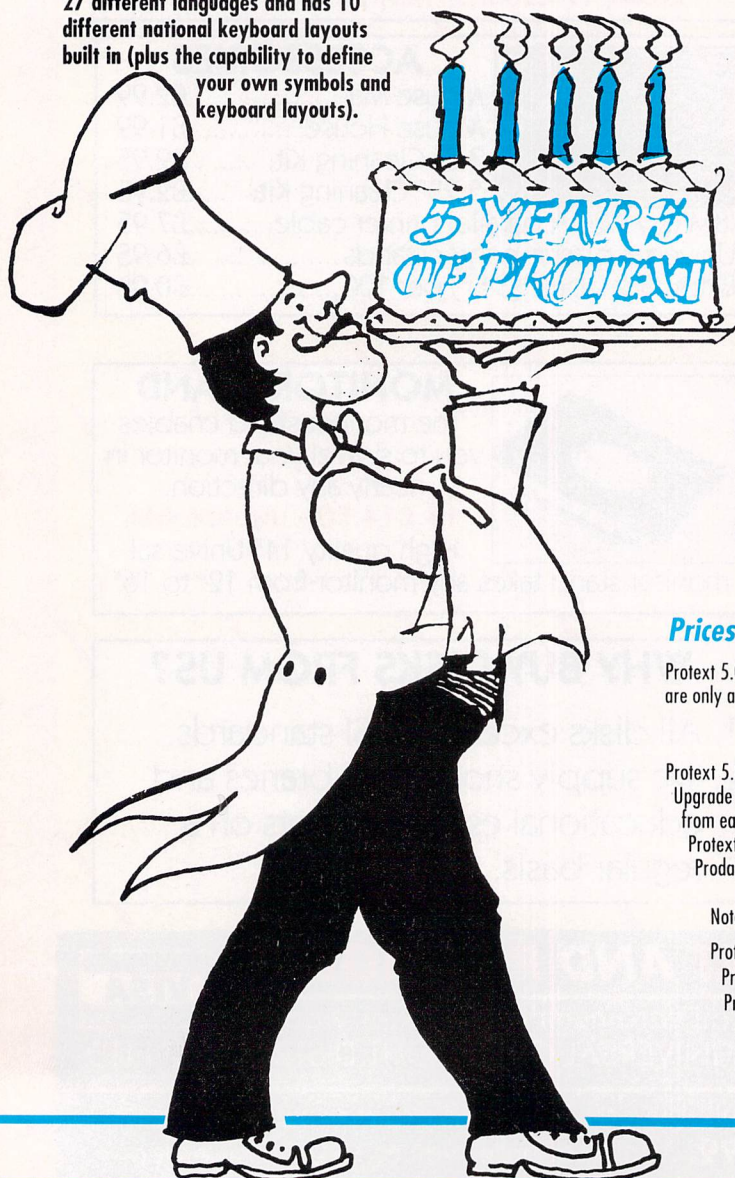
Protext 5.0 introduces a completely integrated system of pull down menus and dialogue boxes. The menus are among the many operations that may now be carried out with either the mouse or the keyboard. Protext really does give you the best of both worlds.

Protext 5.0 handles printer fonts flexibly and accurately. You can make full use of any number of proportional printer fonts, mix them freely within any line, centre them in headers, use automatically formatted footnotes. And Protext correctly formats your text as you type it, no matter how many font changes you use, showing you line and page breaks exactly as they will be printed.

Protext 5.0 is still the fastest word processor around. Even though we have made all these major improvements we have taken great care to ensure that text editing is as fast as ever. The menus work smoothly and quickly even with high resolution displays. But of course, you can use Protext's efficient set of commands and keys just as before and 5.0 remains compatible with all earlier versions from 1.0 onwards.

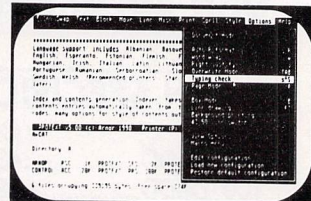
Protext 5.0 is a worthy successor to version 4, which was described as "the best word processor at any price", "the best text processor on the Amiga" and "the most powerful word processor on the Atari ST" (AUI, ST/Amiga Format, ST User).

Protext 5.0 heralds a new era of multi-lingual European software, in time for 1992 and the opening up of Eastern Europe. Protext may be used in at least 27 different languages and has 10 different national keyboard layouts built in (plus the capability to define your own symbols and keyboard layouts).



The Features

✧ **New fast & easy to use pull down menu system** with dialogue boxes and alerts; file selector; mouse dragging to set blocks. Menus complement existing commands and keyboard shortcuts, do not replace them. Menus may be used with mouse or keyboard. Amiga version follows Intuition guidelines.



✧ **Enhanced printing capabilities** supports multiple proportional fonts; mixing of different font sizes on the same line; proportional formatting whilst editing; side margin, headers and footers independent of main text font. Tabs, decimal tabs and centre tabs. Extensive range of printer drivers supplied.

✧ **Multiple file editing** - up to 36 files may be open; split screen editing.

✧ **Graphics mode support** on PC allows use in virtually any text or graphics mode including 132 column or 75 line VGA modes; user defined characters and on-screen bold, italics and underlining now on all versions; use of 13 different accents on any character.

✧ **Language support includes** Albanian, Basque, Czech, Danish, Dutch, English, Esperanto, Estonian, Flemish, Finnish, French, German, Hungarian, Irish, Italian, Latin, Lithuanian, Norwegian, Polish, Portuguese, Rumanian, Serbocroatian, Slovak, Spanish, Slovene, Swedish, Welsh. (Note: some printers do not support all languages).

✧ **Index and contents** generation. Indexer takes marked words or phrases; contents entries automatically taken from titles wrapped in control codes; many options for style of contents output.

✧ **Spelling checker** features completely new 110,000+ word Collins dictionary with very fast phonetic lookup. Anagrams and find word pattern. Foreign language dictionaries (German, Swedish available now, others to follow).

✧ **Many other enhancements** including multi-line footnotes and endnotes; automatic timed save; add column or row of figures; indent tabs; find word at cursor; 40 column mode support; sentence operations; inter-paragraph space; much improved expression evaluator; self incrementing variables; Roman numerals; newspaper-style column printing; file sorting utility with special options for names and addresses; revised manual plus new tutorial guide.

✧ **And don't forget Protext still includes** background printing; box manipulation; macro recording; exec files; headers and footers; find and replace; mail merging; undelete; file conversion utility; configuration program; auto reformatting; on screen help; time and date; typewriter mode; line drawing; disc utilities.

Prices

Protext 5.0 may be purchased from any good computer shop or directly from Arnor. Upgrades from earlier versions are only available from Arnor and the original discs should be returned with your order.

	PC	Amiga	ST/TT	Archimedes
Protext 5.0	£149.95	£149.95	£149.95	£149.95
Upgrade from v4.2	£60	£60	£60	N/A
from earlier versions	£75	£75	£75	N/A
Protext 4.2	£99.95	£99.95	£99.95	N/A
Prodatta 1.1	£79.95	£79.95	£79.95	due 1991 Q1

Notes:

Protext 5.0 requires at least 640K of memory on all machines
Protext 4.2 requires at least 512K of memory on all machines
Prodatta requires 1MB of memory on the Amiga

ARNOR

In part two of our assembly language tutorial, Bullfrog's chief ST programmer, Glenn Corpes, reveals all you need to know to achieve movement in your assembly programs

Moving into top gear



Following last issue's introduction to assembly programming, this time we're going to try to tie the animation of one of the *Flood* characters, GUMBO, to the joystick so that when you move the joystick up, down, left or right the character moves accordingly. The *sprite.s* file contained on this month's Cover Disk (see page 38) provides you with the source code to achieve this movement. Simply load up *Devpac 1* from last month's Cover Disk, import the file and compile it. What? You haven't got last month's Disk? Then turn to page 138 immediately for the *FORMAT* back issue service.

One of the tricks with animation is to give characters "momentum." This means that when a character walks left he moves faster until he reaches a maximum speed, and when you move the joystick right he slows down and then reverses direction before speeding up to his maximum speed. This was employed in such games as *Spindizzy*, *E-motion* and *Oids*. We at Bullfrog used momentum extensively in our first game, *Fusion*.

Since the character is going to be shifting around the screen and animating at the same time, we have to design what is called a structure for the character.

Look at line 769 and beyond to see the variables used to store details about the character.

`player_x` holds the x screen position of GUMBO character.
`player_y` holds the y screen position of GUMBO character.
`player_vx` holds the speed the GUMBO moves in the x direction.

`player_vy` holds the speed the GUMBO moves in the y direction.
`player_frame` holds the frame of animation being displayed.
`player_delay` a count of how long before we go to the next animation frame.
 These are just like variables used in BASIC.

You should start by looking from line 134 (`_display`). This is the main game loop which features all the calls to the different routines controlling the program. The first instruction you see is:

```
bsr _init_player
```

This sets up all the game variables. At the moment it just sets the *Flood* character so that he faces right.

Now we're into the main game loop. Here we must first wait for the video beam to get to the top of the screen:

```
bsr _wait_vbi
```

We have to do this or our character flickers.

Now we clear the screen to black – that is, all zeros.

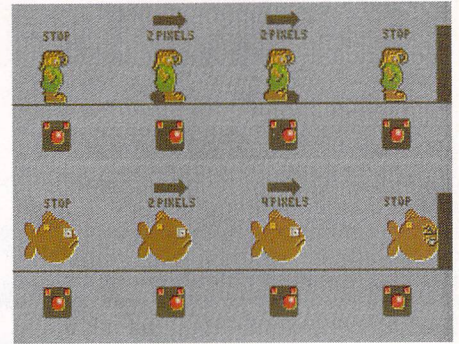
```
bsr _clear_screen
```

This routine has to be as fast as possible because we have to move zero into 32,000 bytes. Clearing or updating the background of a game screen usually takes 50% of the time for one game turn. If instead of clearing the screen we want to put down graphics it can take up to 80% of the time.

The next instruction is:

```
movem.w player_xy, d0/d1
```

This instruction moves the value of GUMBO'S `player_x` into register `d0` and `player_y` into `d1`. The simpler way of doing the same is:



■ This screenshot shows the type of characters for which you would use momentum. When the man runs and stops, he comes to an immediate standstill, so there is no momentum. However, when a fish waggles his tail and then glides to a slow halt, momentum is being employed

```
move.w player_x, d0  
move.w player_y, d1
```

But obviously it's good to use the shortest and fastest ways possible.

```
asr.w #2, d0  
asr.w #2, d1
```

The "asr" instruction above is the same as a "divide by 4" but much faster – up to ten times faster. Most assembler programmers avoid the *divide* instruction as much as possible because it's exceptionally slow. In *Powermonger*, rather than rely on the *divide* instruction, we used what is called "lookup tables" to give us the divide results. These are essentially tables containing the results of all the *divide* instructions. Instead

	0 0		-1 0
	0 -1		-1 -1
	1 0		-1 1
	1 -1		1 1

■ These are the values of the variables `dx_joy` and `dy_joy` respectively, depending on the position of the joystick

of working out the division you just go straight to the answer in memory.

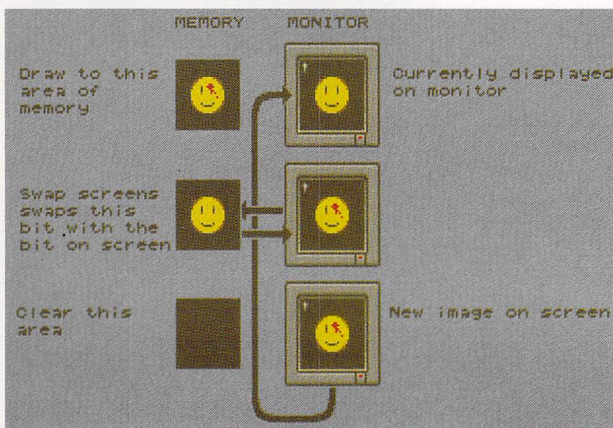
This version gives the sprite a little momentum. When the joystick is held to the right, the sprite's x velocity is increased by one, up to a maximum velocity of 16. If the joystick is not held down the velocity decreases by one, which means the sprite takes 16 fiftieths (about one-third) of a second to speed up and slow down. The problem with this is that the sprite has a maximum speed of 16, which is too fast – in fact it would move across the screen in two-fifths of a second. If this were written in a floating point language, such as BASIC or C, you could make the x velocity increase by 0.25 as you move the stick, giving a maximum velocity of 4. You could find some floating point routines and add them to your code, which would make it disgustingly slow and about twice the size. Alternatively, don't think of the screen being 320 x 200 pixels – in this case treat it as 1,280 x 800 and simply divide the coordinates by 4 before drawing the sprite (using an *asr* rather than a *divide*, of course).

```
move.w player_frame, d2
```

puts the current frame of animation of the GUMBO into `d2`.

```
bsr _spr3232
```

actually draws the sprite on the screen. It takes



■ You need to use two screens when showing a character on screen. Imagine if you asked someone to draw you a picture and show it to you afterwards – you would see just the end result. However, if you sneaked a look over the artist's shoulder you'd spot all the tricks used to create the picture. Screens are drawn in the ST's memory and only completed screens are actually displayed on the monitor

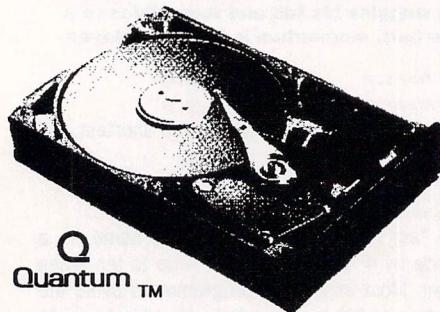
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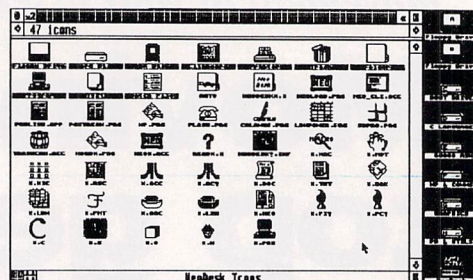
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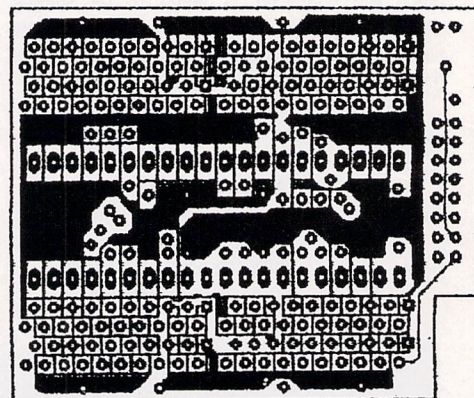
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d0 as the x position on the screen, d1 as the y position on the screen and d2 as the sprite number to draw.

```
bsr      _swap_screens
actually displays the screen we have been drawing. This is called double buffering, which means we actually update the screen not being displayed and then show this screen while we update the other screen.
```

Now consider the following:

```
bsr      _move_player
This is the routine which tests the keyboard and handles the movement of the GUMBO. Keyboard detection occurs as follows:
```

```
cmp.b    #KB_SPACE,KB_DATA
        is Spacebar pressed ?
beq.s    exit_display
        yes, exit!
jr_loop
btst.b   #1,KB_CONTROL
        keyboard ready for command?
beq.s    jr_loop
        no, loop
move.b   #16,KB_DATA
        request a joystick packet
```

```
bra      disploop
These lines check the keyboard to see if a Spacebar is being pressed. If not, then we go back and do the whole loop again. A BASIC equivalent of this routine would be something along the lines of:
```

```
let player_x=0
let player_y=0
let player_frame=20
loop:
call draw_sprite
(player_frame,player_x/4,player_y/4)
rem wait for Spacebar to be pressed
if inkey$ = 32 then goto the_end
goto loop
the_end:
```

Although this looks much simpler, you must remember that BASIC is not bothering to swap the screens and sync with the screen, but this basic version is always slower.

Note this is not an actual BASIC program, just an example. Don't try to type it in – it cannot work.

READING THE STICK

The ST joystick is about the hardest to read I have ever come across, but this may be because I have never tried the PC. It is hard to read

TIME TO UPGRADE?

All the Bullfrog files contained on this month's Cover Disk run perfectly adequately in *Devpac 1*, but if you're seriously hooked on assembly and want to go further why not upgrade to *Devpac 2*? Find out how you can save £20 on *Devpac 2* by turning to page 126 right now!

If you look at the program file on this month's Disk and flick through to line 752 you can see that this checks to see if you're using *Devpac 2* and uses the *section bss* directive. This means that all of the uninitialised data at the end of the program is not saved out to disk when you assemble it. This makes a major difference because *Devpac 1* produces a .PRG file over 60K long while *Devpac 2* outputs a 2K .PRG file.

Devpac 2 also has an *INCBIN* directive which enables you to include binary data in your program. Thus you can change the line:

```
_spr_32      ds.b      640*40
              for 40 32*32 sprites
to
section data _spr_32 incbin
sprite32.dat
```

You can leave out all of the disk access. You might like to try writing a program to convert a binary file into a text file – for instance,

```
dc.l $57485920, $41524520, $594F5520,
      $4445434F
dc.l $44494B47, $20544849, $53205348,
      $4954453F
```

This can be included using the normal *INCLUDE* directive and actually say something – but you need to type them in to find out what!

because the joystick and mouse plug into the keyboard which has its own separate processor.

I think the following is the official method of reading the joystick – it is actually the routine used in *Fusion two* and a half years ago. *Populous*, *Flood* and *Powermonger* use a massive routine which patches the entire keyboard interrupt and handles the mouse, joystick and multiple key-press, but I'm trying to keep this program as small and understandable as possible.

This method patches the joystick packet handler, which means that every single time you ask the joystick(s) what they are doing, an interrupt is generated with a0 pointing at 2 bytes in memory. (a0) is the data for joystick 0 (usually the mouse) and 1(a0) is the data for joystick 1. The usual format is shown in the table at right. This is converted to fill three variables – a byte

for the Fire button; *dx_joy*, the left and right movement of the joystick (-1, 0 or 1); and *dy_joy*, the variable for the up and down movement of the joystick (-1, 0 or 1).

The first thing the joystick packet handler does is to save the word in d0 and clear it. This is because the word in d0 is going to be used as the index in a

lookup table later.

```
move.w    d0,-(sp)
clr.w     d0
```

This next line is commented out but illustrates where to process joystick 0. With two sticks try:

```
; move.b    (a0),d0
```

Get the data for joystick 1. At this point the bits in d0.w = 00000000 F000RLDU. So try

```
move.b    1(a0),d0
```

Adding d0 to itself as a byte multiplies d0 by 2, or moves all the bits left by 1. It also loses the Fire bit and leaves d0.w = 00000000 000RLDU

```
add.b     d0,d0
```

If the Fire button was pressed, the carry flag is set. The *scs* instruction means "set to true (-1) if the carry flag is set, otherwise set to false (0)"

```
scs       fire
```

Add d0 to itself again. To finish multiply by 4, for indexing the lookup table

```
add.b     d0,d0 ..RLDU..
```

There are 16 possible combinations of left/right/up/down, and each one of these has a pair of word values for *dx_joy* and *dy_joy* – four bytes per entry. Since *dx_joy* and *dy_joy* are two consecutive words (four bytes) in memory, they can be filled in with a single move. It is worthwhile getting your head round this addressing mode (and all of the others):

```
move.l    jlt(pc,d0.w),dxy_joy
```

restore d0 and return

```
move.w    (sp)+,d0
rts
```

MOVING IT

"Movems" are usually used only for saving registers on the stack and restoring them at the end of the routine:

```
_aRoutine
movem.l    d0-d7/a0-a6,-(sp)
           save the regs
           loads of instructions which corrupt
           all of the registers
movem.l    (sp)+,d0-d7/a0-a6
           restore the regs
rts
```

Movems are used in several places in the demo – for instance, *movem.l palette,d0-d7* picks up 32 consecutive bytes of data; *movem.l d0-d7,H_PAL* puts them down again in the palette memory. Or *movem.w player_data, d0/d1/*

JOYSTICK BIT SETTINGS

bit	7	6	5	4	3	2	1	0
meaning	Fire				Right	Left	Down	Up

d2/d3/d4/d5 puts *player_x->d0*, *player_y->d1*, *player_vx->d2*, *player_vy->d3*, *player_frame->d4*, *player_delay->d5*.

You can then do what you want with these values and put them back with:

```
movem.w    d0/d1/d2/d3/d4/d5,player_data
```

Note that the label *player_data* has exactly the same value as *player_x* but *movem.w player_data,d0/d1/d2/d3/d4/d5* makes more sense than *movem.w player_x,d0/d1/d2/d3/d4/d5*.

If you're going to use this method, remember not to insert variables between the current ones, or you read/write the wrong data. **stf**

■ Next month we introduce some alien nasties and give 'em a bit of intelligence. To tie in with next month's Video special, we also talk about syncing the graphics to the video screen. See you here!

30p

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■ View your List on the GEM-like window and re-size the columns by dragging them across the screen with the mouse

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■ By clicking on specific items on the List, you can zoom into the Form, and then set up the Fields you require to enter your info

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WINDOW - All Records alt PA
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Informer 2 in form

Is it a book? Is it a film? No, it's a database! Peter Crush blows away the cobwebs and gives you all the inside info on the new Informer 2

Informer 2

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Databases are very useful methods of storing and retrieving information, and are widely used by most businesses. Even so, they tend to get ignored by the home user unless you are someone who needs to store loads of information – if you're involved in running a club for example. *Informer 2* is a new database program from the States that offers you all the facilities you'd expect in a normal database, plus a few extra.

The program comes on three disks labelled Program, Tutorial and Help. It also comes with a 160 page manual. *Informer 2* runs on any ST with a double-sided drive, and also works with a one or two floppy drive system or a hard drive. The number of Records you can have depends on the size of your ST's memory.

Fortunately, the Field lengths are variable so this helps to maximise the number of Records

you can have at any one time. There are 52 Fields available – plenty for home use – and each Field can have a string of up to 256 characters in text, numeric information, or both. Each database you set up with *Informer 2* has two distinct elements – the List and the Form.

The contents of each Field are displayed as either a column in the List, or within a box of their own on the Form. You enter information in the Form, which then automatically appears in the List. The List shows more than one Record and you can scroll up, down and across the screen to view them. The Form can only show one entry at a time, but you can easily scroll up or down to view previous or subsequent Forms.

Once you get used to the idea that Lists and Forms are just different ways of presenting the same information, using the database becomes fairly straightforward. You can design Forms to suit your preference – even incorporate graphics in either *Degas* or *Neochrome* formats to jazz up the background for example.

You can switch between the List and Form by simply clicking on the entry in question. *Informer 2* is also capable of importing data from other database programs – there are con-

version programs if you have problems. What's more, you can import into *Informer 2* any "delimited" ASCII text – the industry standard for database or mailmerge information.

A conversion program is supplied so that you can take data from the *DB Master One* (available from the Public Domain) and *Data Manager Professional* databases, making it useable in *Informer 2*. The use of graphics in the program enables you to present a single image to screen, or do a "slideshow." Graphics must be loaded in from disk, so this is obviously much faster with a hard drive. Each database can contain four Tables (a Table being a Form and a List) and these can consist of related or dissimilar items. Because of this feature, the program is claimed to be "semi-relational."

Informer 2 has all the features you could want in a database, plus a few extra – notably the ability to use graphics in your file. However, you could find the graphics superfluous if you don't really need them. The manual isn't too difficult to follow either. Overall, then, *Informer 2* is an expensive but good quality database that, to a limited extent, caters for graphics. **stf**

WHAT IS A DATABASE?

Databases are programs to help you handle information (or data), which can take the form of names, addresses, financial information, lists of things – the possibilities are endless. You could just write this information on paper, but that's old hat, and if you do that you can't process or re-order the information either.

With a computer database, it's very easy to alter and update information. The simplest databases are "flat file" or card index-like programs. The most complicated are the "relational" databases which enable you to connect various items in complex ways. Flat file databases are the easiest to use, but less powerful. Relational databases are incredibly powerful, but difficult to learn.

All databases use "Fields" into which you enter your information. Think of these as boxes for certain categories of data. To set up a database on the names, addresses and telephone numbers of your friends, for example,

you need three Fields: the first for "Name," the second "Address" and the third "Telephone."

In most databases you must then specify the space allocated to each Field. "Mark Bloggs" takes up only 11 spaces, whereas "Arnold Schwarzenegger" takes up 21 spaces. You have to take into account the maximum wasting space (and memory) you can afford if any of the names turns out to be short. If the program enables you to have "variable" Field lengths, you don't have to specify how many characters are needed – only the actual space used for each entry is taken up.

Once all your data is typed in, you're in business. You can now display your list of friends on screen in alphabetical order, sort them by their addresses or list those who share the same telephone code. If you have a printer you can print out the list, or print address labels. And if you fall out with any of your mates, you can simply erase them!

FORMAT RATINGS

INFORMER 2/£56.74
Soft-Aware Unlimited
0101 714 982 8409

Features **88%**
It has most of the usual database features as well as a few graphical extras

Speed **85%**
Reasonably fast on a floppy drive if you don't use too many pictures; fine with a hard drive

Ease of Use **86%**
You must read the manual but it's not too difficult

Results **85%**
Good, but you may find the graphical facilities an unnecessary extra

FORMAT VALUE **79%**
Reasonable but expensive database

The Competition
K-Data (£49.95 Kuma Software ☎ 0734 844335)
and *Data Manager Professional* (£39.95 Electric Distribution ☎ 0480 496666)

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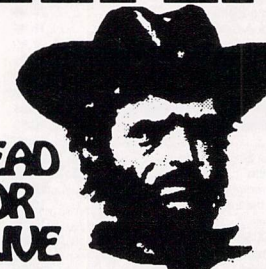
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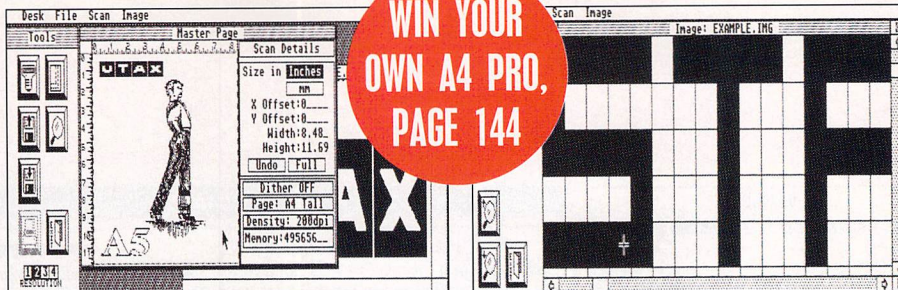
With a handheld scanner, you can reproduce virtually any two-dimensional original in the pages of your own DTP document. However, handheld scanners suffer from two difficulties. You need to pass the scanner over the original in a smooth, constant-speed motion, in a straight line from top to bottom – normally no problem, but if you should twitch or slip momentarily, your scan can be ruined, forcing you to do it again.

Handheld scanners are also a source of hand-cramp. No, really! Most scanners require you to hold a button down with your thumb while you're scanning. This, combined with the concentration needed to do a perfect-speed scan, can cause your hand to ache something rotten after a while.

The usual answer to these problems is to use a flatbed scanner – a unit like a photocopier, with an automatic scanning head which passes underneath the document you're processing. However, these are not only incredibly expensive but generally fairly hefty devices which take up a lot of space – usually the one thing most Desktop Publishers are short of!

Pandaal have come up with a most effective and reliable solution. The Daatascan A4 Professional is a two-part system, consisting of a scanner unit and a paper-feed device. The scanner unit is just wider than an A4 sheet of paper, and about 80mm tall and deep. You can use this as a stand-alone handheld scanner or slot it into the paper-feeder, a small rectangular tray with rollers inside, which the scanner clips onto.

The whole caboodle (whether being paper-fed or handheld) is controlled by the latest version (v2.3) of Pandaal Daatascan Pro software via a cartridge which fits into the side of the ST. The included power supply connects to the cartridge and distributes power to the scanner via the data lead, minimising the number of trailing wires over your desktop. The software is essen-



■ With its updated software, the Daatascan Professional package is even more useful than its predecessor. All the major features can be accessed via keyboard shortcuts as well as mouse-controlled menus and data entry windows

■ Several levels of magnification are available in the image window. You can zoom right in and touch up individual pictures, just as in an art package – indispensable if your original image has any blemishes which need removing



Neil Jackson examines the latest scanner in Pandaal's Daatascan Professional range, and finds it's more than a handful

Scan steady



■ The new A4 scanner from Pandaal is a versatile beast. You can hold it in your hand like a normal scanner, or clip it to its tray and feed the paper in automatically

tially the same as that for the Daatascan A4 Handheld (reviewed in STF 15), with a few improvements and bug-fixes. It is incredibly easy to use, and can cope with mouse commands or direct keyboard entry to set the scanned area, the density of the scans and other operating parameters. A variety of special dither patterns can be selected from within the software to help make fuzzy coloured or half-tone images reproduce better when scanned.

The scanner requires you only to feed the first few millimetres of the document into the feeder – the rest of the process is entirely automatic. Even the scanning resolution (100, 200, 300 or 400 dpi) is set from within the software, with no need to hunt for switches on the unit. The only other control on the scanner is the contrast level, a simple thumbwheel located on the top of the unit for easy access.

Pandaal are to be applauded for their attention to users' requests. The new package has all the versatility and ease-of-use which made its predecessor a success, but with more of both. The accompanying software just gets better and better, making the package the best in its field. It's not cheap, but it's too good to miss if you're a regular user of scanned artwork. **stf**

FORMAT RATINGS

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Features 94%

Simply the most efficient, practical and versatile combination of hardware and software ever seen

Speed 91%

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Results 95%

The best around. Printouts and on-screen images highly detailed, consistent all the way down the scan

FORMAT VALUE 96%

Even better than its predecessor, making it the best the ST has seen in this field

The Competition

Geniscan (£169 Datel Electronics ☎ 0782 744707), Golden Image (£149 Evesham Micros ☎ 0386 765500), Migraph Hand Scanner (£399.99 Software Express ☎ 021 643 9100). See reviews in ST FORMAT 9, 15 and 18

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Richard Carsons from **Cheshire** is having a few problems with printer drivers and is uncertain what they are exactly. He's been trying to interface his 1040 STE to a Star LC24-200 printer, but it won't work with some of his software. Understandably, he wants to know why.

Well, not to put too fine a point on it, printer drivers are a law unto themselves. The general principle of any printer driver is to take the information output from a program (say, *1st Word* or *Degas Elite*) and convert it into a stream of data which the printer can then use. Because of this there are as many different printer drivers as there are types of printer, and often a printer driver for one program is entirely useless when you try to use it with another.

Any half-decent word processor or art package comes with several specially-written printer drivers, covering the most popular printer types. Often software manufacturers issue upgrades for new printers as and when there is a demand for them, so it's often worth writing to the companies to tell them what you need.

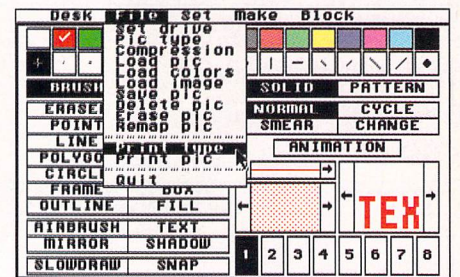
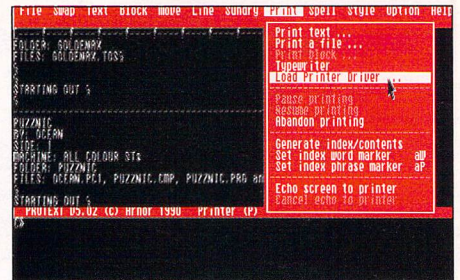
Many dot matrix printers have what is called an emulation mode where you can set the printer

up to function as either an IBM or Epson printer. These are the two most common "standards" – but as often happens when you try to emulate a lesser printer, you may not be getting the most from your new printer as a result. Even so, you should be able to get the printer working to some extent using these drivers.

Such a botch-job, however, is less than effective. To really "push" your new printer, you need a custom-built driver. You either have to write one yourself (which is plenty of hard work) or entice those who programmed your word processor to write it for you (even tougher).

There are a few programs which may help. Several printer spoolers and background printer programs are available, which act as an interface between a word processor and the printer. They intercept the data sent to the printer port and do extra things to it – often you can continue writing while still printing, for example. This can be useful, especially if the spooler has its own set of drivers. If one already exists for your printer, your problem is solved because the data is converted before being output.

Softville PD Library (☎ 0705 266509) has a range of terrific utilities for £3 each, and some of the following may help if you're having printer driver problems: *Epson Printer* (Disk ACC4),



■ Word processors like *Protex* (top) and art packages like *Degas* (bottom) come with their own printer drivers, but there are many different ones available. Many are not interchangeable, so you can have problems when you want some hard copy

Degas drivers (ACC12), *Printer Spooler* (ACC13) and three disks crammed full of printer drivers for many different types of printer and program (Disks WP3, WP11 and WP57).

GET THE BIG PICTURE

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Everyone who owns an SM124 monitor wishes the screen was just a bit bigger. Well, very soon such prayers could be answered – one of the biggest raves in Germany at the moment is a bit of hardware known as the Autoswitch-Overscan. One of our **DESKTOP** readers, **Henry Rushing** from **Dortmund**, told *ST FORMAT* what it's all about.

Autoswitch-Overscan consists of a small circuit board (3x3cm) with eight wire connections. These connections have to be soldered to specific points in the ST, but anyone with a bit of soldering experience can do the job for himself fairly easily. The manual describes precisely how to install the hardware and there are numerous diagrams showing the nine different versions of Atari's circuit boards. All you have to do is find the diagram that matches your circuit

board. The hardware then works with a program that you install in your AUTO folder. The highest resolutions possible are as follows:

Atari SM124:	672 to 704 x 480 : High res
Atari SC1224:	384 x 280 : Low res 50Hz
	752 x 280 : Medium res 50Hz
	384 x 240 : Low res 60Hz
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	384 x 232 : Low res 60Hz
	768 x 232 : Medium res 60Hz

So what does it all mean? Quite a lot – 25% more resolution in high res mode, and up to 50% more resolution in low and medium res.

If your program doesn't work with Overscan (symptoms include a screwed up screen and maybe a system crash or two) there is a solu-

tion. In the AUTO folder is an Overscan .INF file which is read on boot-up. Certain sections of the file contain info on programs you can or cannot use with Overscan. If you use a program that does not work with Overscan, then it switches itself off and you go back to normal resolution. When you've finished, Overscan then switches back to the larger resolution!

Sadly, this little magic box does not exist for the STE yet – they still haven't quite figured out the STE layout. It doesn't work with ROM TOS version 1.0 either. It costs DM120.00 (£40.00) and you can order it from: Overscan GBR, Sântisstr. 166, D-1000 Berlin 48.

If you want to get into contact with Overscan GBR in Berlin (they speak English) there is a hotline service on Mondays and Tuesdays.

☎ 010 49 30 811 5882 (Mondays & Tuesdays 8.00am – 11.30am) or ☎ 010 49 30 344 23 66 (Mondays 8pm – 10pm).

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● If you set a program to AUTO in the Install Applications menu (TOS 1.4 or later), this not only causes that program to run automatically after all the programs in the AUTO folder have run, but also after the Desk Accessories are in memory. This can be useful if you need to set up an on-screen clock from a Desk Accessory.

● Although ST disks are PC compatible, you can't run PC programs on an ST without a PC emulator. You might be able to read the files, but you can't get them to run without one. You can get hold of a suitable emulator from Silica (☎ 081 309 1111) for only £199.

have the pound (£) and hash (#) symbols switched around, so try printing a hash and you may get a pound sign instead!

● You can record your STFM's or STE's display simply by connecting the RF lead (not the monitor lead) to the RF input on your video recorder and retuning one of the video's channels to UHF 36. You should then be able to see your ST's Desktop on

● D&S Software (☎ 0908 615104) have produced a Z80 cross-assembler, which gives you the ability to write machine code for old 8-bit micros, like the Spectrum and Amstrad CPC. It can send its data straight to the target machine via RS232 lead and costs only £49.95.

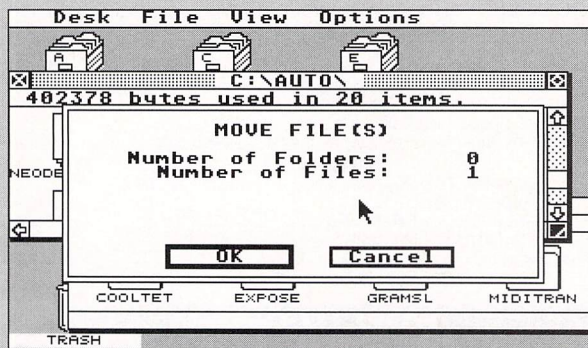
● If you're having trouble printing out pound signs (£) in your documents, it may be because the program was written for the American market. Their key boards

your display. Now it's a simple case of saving it to tape just like a normal TV picture.

● A 1MByte ST with TOS 1.4 has 903,900 bytes free at boot-up, while an older TOS 1.2 equivalent has only 888,440 bytes to play with.

● If you hold down the <Control> key when selecting files on a TOS 1.4 or 1.6 machine, you are able to move files rather than just copy them. Moving deletes the original version, whereas copying leaves the source file intact.

● If the right side of a document isn't visible when you click on SHOW, it's because the document was written in medium resolution. Simply switch over to this mode to read the document and the display should be complete.



■ **Later versions of TOS (version 1.4 and above) have plenty of undocumented features that can save you a lot of heartache. MOVE is one such command – it enables you to move your files, not just duplicate them elsewhere**

GFA Basic Programmer's Surgery Part 2

This month, Barrie Capel prescribes ointments and pills for curing your GFA ills. He shows you how to create simple selection

boxes, save sections of the

screen to disk and make sense of the ST's colours, and gives you a jab for the GFA Basic equivalent of a common cold – loading Degas P11s

LOADING DEGAS P11 PICTURES

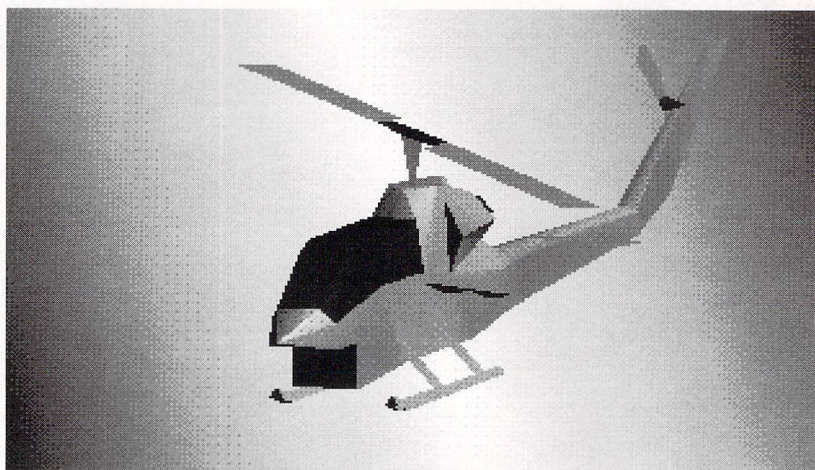
To the more experienced GFA Basic programmer, the subject of loading Degas pictures from disk invariably produces a groan and a cry of,

"oh no, not again." However, it's still the most frequently asked question by novice programmers, so for the last time ever, and with no apologies, here is a comprehensive guide.

A Degas Elite picture in P11 format is 32,066 bytes long. The first two bytes contain the picture's resolution (0=low, 1=med and

2=hi). The next 32 bytes contain the colour palette, and the next 32,000 bytes, the screen information. The remaining information is for colour cycling – you can ignore this.

Your objective is to get the 32K of screen data into the ST's 32K screen memory area. Using the operating system call XBIO(2) –



■ **So you've got your favourite Degas picture – this one's designed by our very own Tech Ed, Neil Jackson – and you want to get it into your new GFA Basic demo. How do you go about it? Barrie Capel gives you an easy-to-follow guide**

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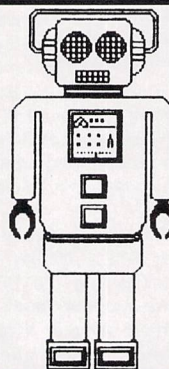
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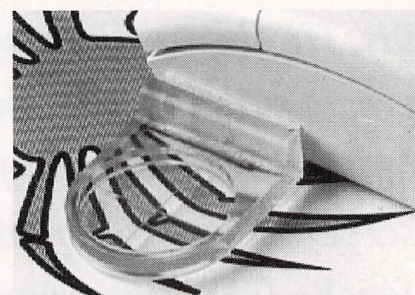
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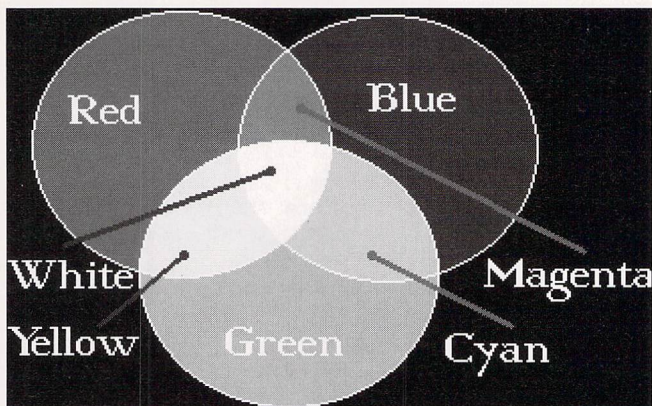


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vious colour *must* be replaced with your newly chosen colour.

The ST produces a colour by mixing red, green and blue elements. To alter a colour you simply vary the intensity (brightness) of each element. They each have a range of values from 0 to 7, so this gives you 512 permutations. As a result the SETCOLOR command needs four parameters – the can number, followed by the primary red, green and blue values.

Purple for example contains no green, only

red and blue. To create purple in register 1 (can 1), value the red and blue at 7, and set green to 0. This is SETCOLOR 1, 7, 0, 7. Yellow (red and green) in register 2 would be 7 for both red and green, and 0 for blue. For this use the line SETCOLOR 2, 7, 7, 0.

It is also possible for you to come across a program which has the line SETCOLOR 4, 519. This doesn't mean there are more than 512 colours – it's just another way of putting SETCOLOR 4, 2, 0, 7. You calculate the value using this formula:

$$r*256+g*16+b, (2*256+0*16+7=519)$$

Problems occur when you use the COLOR command to draw, or if you want to use SETCOLOR to change colours, because either Atari or Digital Research got their sums wrong.

You would expect SETCOLOR 5, r, g, b to alter the colour used by the command COLOR 5, but this isn't the case. To change the colour used by COLOR 5, you have to use SETCOLOR x, r, g, b where x has to be calculated from a table. You can create this table with the program below:

```
DIM register%(15)
```

```
RESTORE reg_col_data
FOR a%=0 TO 15
READ register%(a%)
NEXT a%
```

```
reg_col_data:
DATA 0, 2, 3, 6, 4, 7, 5, 8, 9,
10, 11, 14, 12, 15, 13, 1
```

So now, if you want to use the SETCOLOR command which applies to any given COLOR command, you must use:

```
SETCOLOR register%(x), r, g, b
where x is the same number you used in the
COLOR statement.
```

SAVING SCREEN CHUNKS

GFA Basic has a very useful graphics command called GET which enables you to grab a rectangular area of the screen and store it as a string. Once it's grabbed, you can PUT it back onto the screen in a variety of modes – or save it to disk.

Storing data on disk from GFA Basic is fairly straightforward, but can be confusing because of the number of methods available. Let's assume that your screen chunk is grabbed with:

```
GET 100, 50, 200, 75, chunk$
```

A \$ now contains the bit-image data for that area of the screen, but not the colour palette – you are responsible for dealing with that. To save it, the easiest method to use is this:

```
address%=VARPTR(chunk$) start address of
data
blocklen%=LEN(chunk$) length of data
block
```

```
BSAVE "A:FILENAME.BIT",
address%, blocklen% do the save...
or as a single
line.
```

```
BSAVE "A:FILENAME.BIT",
VARPTR(chunk$), LEN(chunk$)
```

The filename is up to you, but it is advisable to use an extender like .BIT to denote that it is a bit-image data block. Loading it back in is a little more involved:

```
OPEN "I", #1,
"A:FILENAME.BIT"
```

Open the file for
"I"nput

```
l%=LOF(#1)
```

Get the Length
Of File

```
CLOSE #1
```

Close the file

```
chunk$=SPACE$(l%)
```

Create dummy
string

```
BLOAD "FILENAME.BIT",
VARPTR(chunk$)
```

Do the load

You can then place the data on the screen with

```
PUT X, Y, chunk$,
```

or: DO

Start of loop

```
MOUSE x%, y%, z%
```

Read mouse
position

```
PUT x%, y%, chunk$
```

Put block at
mouse position

```
EXIT if z%
```

Exit if mouse
button pressed

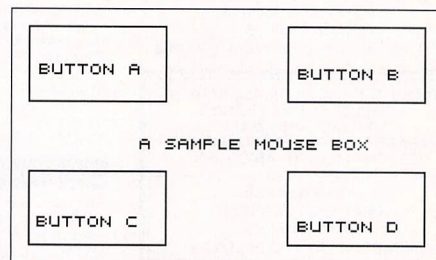
```
LOOP
```

End of loop

A couple of points. The program works only if the cut is loaded up in the same resolution that you saved it in. What's more, the cut always appears in the current colour palette. A rough fix for this problem is to add the colour palette to the front of the chunk\$ before saving it. On loading it, you can remove the first 32 bytes for the new palette, knowing that the bit-image data is left ready for the PUT command.

SIMPLE MOUSE SELECTION BOXES

These boxes are the ones you click on when choosing an option. If you write a program which offers the user a choice between two or three things, you can use an ALERT to determine which operation the user wants. An ALERT



■ Using the ST's in-built mouse selection system is quite difficult. How can you make life easy for yourself when you're trying to read from four possible options?

■ How do you work out the ST's colour commands just by using GFA Basic? All you ever need to know is right here. This image illustrates how you can generate the whole range of colours by simply combining the three primaries: red, green and blue

Physbase(), which returns the memory address of the screen, you can load the file straight into the correct place with:

```
BLOAD "PI1NAME.PI1", XBIOS(2)
```

Remember that the actual screen data in the PI1 file doesn't start until after the two resolution and 32 colour palette bytes, so to compensate you have to load the data 34 bytes before the start of the screen with:

```
BLOAD "PI1NAME.PI1", XBIOS(2)-34
```

This ensures that the 32K of screen data lies exactly in the screen memory area.

Finally, you need to set the ST's colour palette to that of the file using the XBIOS(6) call – Setpalette(). You do this by passing to the system the address of your new colour palette (32 bytes before the start of the screen). Just use the line shown below:

```
VOID XBIOS(6, L:XBIOS(2)-32)
```

Please note that the VOID command means you are not interested in the value any call may return, so it is discarded as a result.

This method works with PI1 files created with the original version of Degas too. The old file format is the same as Elite, apart from the colour cycling data on the back end – these files are only 32,034 bytes long as a result.

THE ST'S COLOURS

It seems that if you move up to the ST from a computer with a fixed colour palette – where colour 6 is always red, for example – then the ST way of doing things is far from easy to get to grips with at first.

The standard ST has 512 colours but you can display only 16 at any one time in low resolution. These 16 colours can be set by the user to any of the 512 available with the SETCOLOR command. When you draw on the screen, the COLOR command tells the ST which of the 16 colours you want to use.

Imagine you want to paint a picture, and you're given 16 empty paint cans. You go to a store room which contains 512 coloured paints and fill your cans with the 16 colours of your choice. If you put the cans down in a line, you can refer to them as cans 0 to 15.

The rules state that you can't have more than 16 colours in your painting, so if you change a colour in one of the cans, then everything on your canvas already painted in the pre-

box enables you to present up to three selection buttons at once, but what if you want more?

One answer is to use a Resource (RSC), but you need a fair amount of programming knowledge to use one of these and usually a Resource editing program too! The alternative is a DIY job, but the result is the same. In the following listing, you supply the appropriate screen coordinates for x and y, in order to position the boxes as desired.

SGET screen\$

Grab the screen for later

TEXT x, y, "The text you want to appear inside button a"

PBOX x, y, x1, y1

Blank out desired area

TEXT x, y, "The text you want to appear inside button b"

Draw main box outline

Draw first button

Draw second button

Draw third button

Draw fourth button

TEXT x, y, "The text you want to appear inside button c"

TEXT x, y, "The text you want to appear inside button d"

DO

MOUSE mx%, my%, mz%

If mx%>ax% AND mx%<ax1% AND my%>ay% AND my%<ay1% AND mz%=1

GOSUB procedure_one

ENDIF

If mx%>bx% AND mx%<bx1% AND my%>by% AND my%<by1% AND mz%=1

GOSUB procedure_two

ENDIF

If mx%>cx% AND mx%<cx1% AND my%>cy% AND my%<cy1% AND mz%=1

GOSUB procedure_three

ENDIF

If mx%>dx% AND mx%<dx1% AND my%>dy% AND my%<dy1% AND mz%=1

GOSUB procedure_four

ENDIF

If the above lines use mz%=2 at the end, then only the right mouse button selects the options.

LOOP

■ That's all for this issue, but if you have a query regarding **GFA Basic 2** write to **GFA Programmer's Surgery, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW**. Sorry, but we are unable to reply personally to individual letters

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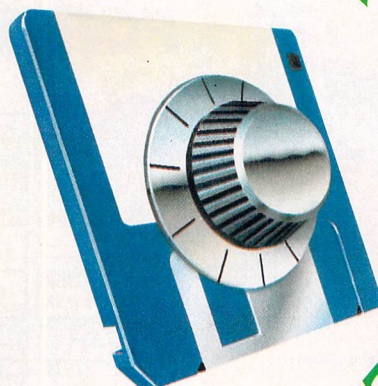
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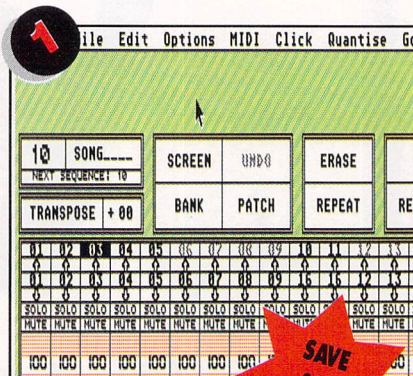
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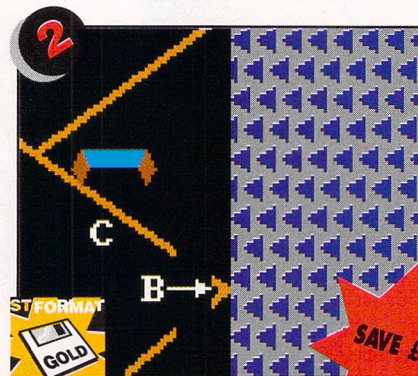
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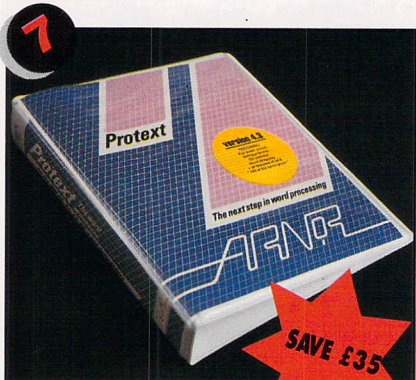
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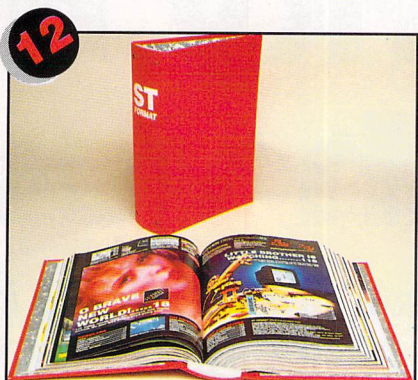
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Are you looking for a MIDI keyboard? Take a look around and you're bound to see Yamaha PSS-680's and 780's going for between £50 and £120 second-hand. The differences between the two models are mainly cosmetic, with the PSS-780 being the direct replacement for the 680. The features are impressive. A five octave keyboard with miniature, but perfectly playable, keys and eight small percussion pads along the front. The units are 12 note polyphonic, meaning that 12 notes can be playing simultaneously.

Most people look at the auto-accompaniment section of synths as being rather toy-like, but nothing could be further from the truth here. The Orchestration section gives you Rhythm, Bass (one note), Orchestra 1, 2 and 3 (one note each), and Chord, and the patterns and voicing for these are controlled by the Style you select. For instance, you might select Techno-Funk (Style 23), which gives you presets for each of the Orchestration elements, but you can choose which components are playing by selecting them from four buttons on the front panel. You get five Chord banks which record any changes you make to your Orchestration selections during the course of a song. There is also the option of playing in your own drum rhythm.

On top of this, you have five melody banks to which you can assign any of the 100 available voices. If you want to play a three note chord, you simply select three of the melody banks to record on.

The MIDI side is impressive. You get a pitch bend wheel – pretty responsive for a one inch job – and if you use the Vibrato, Sustain or Portamento switches, these actually send out MIDI Controllers for modulation, sustain pedal and portamento respectively. Selecting Voices also

sends out MIDI program change commands on the relevant MIDI channels: Rhythm – 16, Bass – 15, Orchestra – 12/13/14, Chord – 11, while Melody can be set to any of the 16 channels.

Pretty powerful stuff. Unfortunately the Melody and Chord banks are limited. After all, once you've used them they're gone, and that could be in one or two songs. What do you do then?

You could transfer the information to a cheap but good-quality sequencer – something like the Alesis MMT-8. This can edit, has eight tracks and also a tape

interface so that you can save data to tape. These cost around £170

second-hand. Once the MIDI info is in the external sequencer and you play it back, the PSS-780 acts as a multi-timbral expander. To this end, there are two modes: 00 is the standard keyboard mode for when you're recording on the PSS-780; 99 is the mode you use to send MIDI info back from a sequencer.

It is possible to transfer the various Orchestration components one at a time by selecting

only one of the relevant front panel buttons each time. To do this, you need to have the PSS-780 and the external sequencer synchronised – and you can do this by using MIDI Clock, a continuous pulse which ensures that the two units stay in step with each other. As the notes are going from the PSS-780 to the sequencer, MIDI

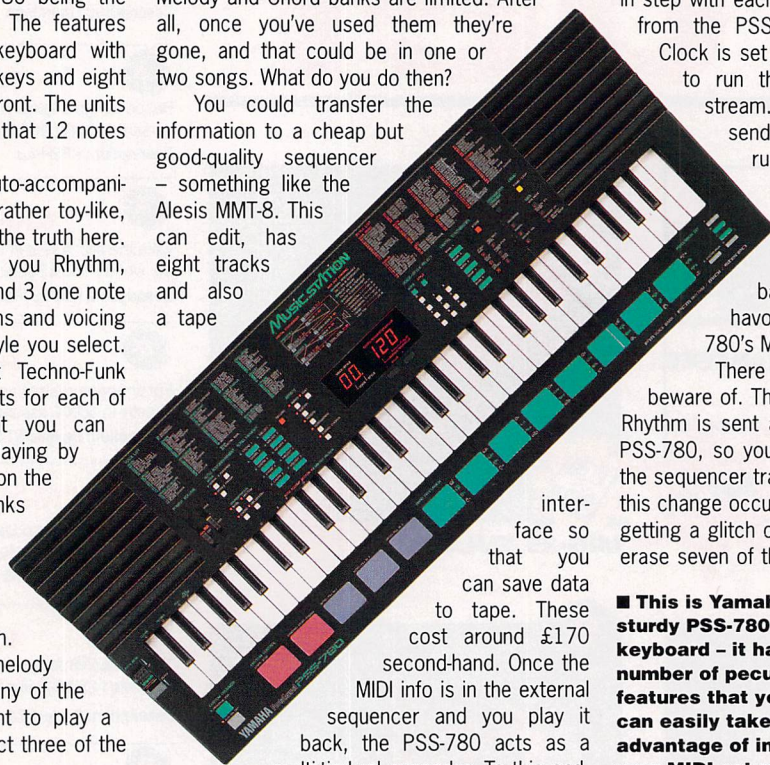
Clock is set to go the other way so as not to run the risk of clogging the MIDI stream. Because the PSS-780 always sends out MIDI Clock, you need to run the external sequencer purely from its own internal clock and turn off the "soft thru." Otherwise the MIDI clock reaches the sequencer and is sent back to the PSS-780, wreaking havoc. Also make sure the PSS-780's MIDI Clock filter is turned off.

There are a couple of problems to beware of. The MIDI Program change for the Rhythm is sent across each time you play the PSS-780, so you find it at the start of each of the sequencer tracks. If you record eight tracks, this change occurs eight times. To save yourself getting a glitch on the first beat of the first bar, erase seven of them. Check which MIDI channel

■ This is Yamaha's sturdy PSS-780 keyboard – it has a number of peculiar features that you can easily take advantage of in your MIDI setup

is being used for the Melody before you record on the Melody Banks – this is the one on which the notes are going to be transferred to your sequencer. Finally, the actual sound sources are polyphonic,

so those lovely mono lines from the Melody Banks may play back with one note merging into the next, depending on the voices you use. Apart from that, remember to save the memory of your sequencer frequently! **stf**



Quirky music with your ST

If you've got a Yamaha keyboard, it's likely you find it a tad quirky. Vic Lennard helps you overcome any MIDI problems you're having with the Yamaha PSS-680 and 780 keyboards



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More answers to your MIDI problems

MIDI helpfile



Where's the editor?

My main sound module is an Evolution EVS-1 and it has a visual editor which runs as a Desk Accessory from the ST. I am running my system through an Akai ME30PII MIDI patchbay and setting it up so that I can also play the EVS-1 from a DX7 keyboard. It's great to be able to edit from the ST, though playing notes via a mouse is no substitute for a keyboard. Unfortunately, I can't get the editor to appear on screen.

When you say you're setting up the ME30PII so that you can play the EVS-1 while you are editing, I assume you are using the patchbay's merge facility. In this way, the edits under system exclusive from the ST are merged with the notes you are playing from the DX7.

When you first access the EVS-1 editor on the ST, a sysex request command goes out to the EVS-1, which then starts to send back its internal information in handshake mode – meaning that as data is received the ST sends out an acknowledgement, after which more data is sent. If this data dump cannot be completed, the editor doesn't appear.

One possibility is that the DX7 is sending out MIDI information which is making the sysex transfer abort. This shouldn't be too difficult for you to check out. – just unpatch the DX7 and see what happens. However, I think the problem in your case lies with the ME30PII. This is practically the same as the ME30P except that data from the controllers on inputs A and B can be merged – but the buffer for storing MIDI data is small. As a result, it can easily overflow, at which point it probably resets itself. You can check this by moving the Atari Out connection to input C or D and seeing if the problem still occurs without the merge. Buffering sysex within a MIDI patchbay, especially under merge conditions, is a difficult job and many patchbays fall down in this area.

Where one ends, another begins...

I have a Casio HT-700 which I use in conjunction with a Roland TR505. My problem is this: if I stop the HT-700 sequencer, the TR505 stops; if I then continue with the HT-700, the TR505 starts from the beginning again. Also, a friend of mine has a Casio CZ101 with some great sounds. Can I use his computer editor to send those sounds to my HT-700?

When you press start on the HT-700, a MIDI start command is sent out, followed by MIDI clocks to keep your drum machine in sync with the sequencer. Press stop and a MIDI stop command is sent to stop the TR505. Pressing start again makes the sequencer continue from where it left off, but it also sends out another MIDI start command so the drums play from the top again.

I don't have the gear in front of me but you could try the equipment the other way around with the TR505 as the master and the HT-700 as the slave (MIDI Out TR505 to MIDI In HT-700). The HT-700 MIDI Implementation chart states that a MIDI continue command is not sent but doesn't say whether it can be received. Try it and see what result you get.

Yes, the CZ101 is capable of creating some great sounds, but unfortunately you can't send these to your HT-700. The movement of sound parameters is by a MIDI function called System Exclusive and the HT-700 can neither transmit nor receive this.

GOT THOSE OLD MIDI BLUES?

Maybe it's a MIDI loop, or something techie like that. Whatever your MIDI problem, Vic Lennard can help. He runs the UK MIDI Association (☎ 081 368 3667), which you can join for only £34.50. In return, you get UKMA's monthly newsletter *MIDI Monitor*, plus free on-line support and advice. Alternatively, you can take advantage of Vic's expertise by writing to MIDI Helpfile, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW. Remember to enclose full details of your MIDI setup, including a diagram if you can manage to fit one in.

Creator stops creating

The mainstay of my MIDI setup is a Korg Wavestation, used with C-Lab Creator. When working in Multimode, I set the levels for each part via the display, but each time I press the "Stop" icon on Creator the levels reset to maximum even though the display still shows the values I have just set.

Creator/Notator does do something a little odd when the Stop button is pressed – my Roland U-220 comes up with "MIDI OFF-line!" The Roland U-110 gives a more precise message – "Active Sensing Error" – and that's the answer.

Each time the Stop button is pressed, the following is sent out:

An 00, En 00 40, Bn 01 00, Bn 40 00, Bn 7B 00.

This translates to: aftertouch off, pitchbend re-centre, modulation wheel off, sustain pedal off and All Notes Off. This is then sent on each MIDI

channel, giving a total of 224 bytes. However, none of these causes the problem – the 225th one does. It's a single active sensing byte, FE hex. Active sensing is used to assure a slave device that the master is still there. If a device receives active sensing, it expects to continue doing so. If the transmission is suddenly cut off, the slave assumes that the MIDI cable has been unplugged (or worse) and ensures that all internal sound generators are shut off.

The probable idea behind C-Lab's implementation is to shut off notes on devices which do not respond to ANO but do receive active sensing. However, the Wavestation's reaction to losing the active sensing is to go to a kind of default setting with MIDI volume at maximum. The MIDI spec mentions returning to "normal mode" at the loss of active sensing. Most manufacturers have taken this to mean the shutting down of any currently active voices, but it is open to interpretation. Some might say Korg have not worked within the spirit of the spec.

The only current way round this is to filter out active sensing on the input to the Wavestation. Anatek's Pocket Filter can do this – it filters out System Real Time, which includes active sensing, and all MIDI clock information, although the Wavestation doesn't need this.

Orders, please

Is there a specific order in which the parts on a multi-timbral synth respond to MIDI information?

Although MIDI information is sent in serial form – one piece of information at a time – it is usually converted into parallel data once it is inside a MIDI device. Timing delays are possible, so it is critical to ensure that the most susceptible MIDI information is processed first.

Where do you hear timing inaccuracies first? Probably percussive instruments – drums, bass and any keyboards with heavy attack. These sounds need to be on the parts which are handled by the multi-timbral synth first. Unfortunately there is no hard and fast rule as to which this may be – it varies between manufacturers and even between individual models. You'd assume a rhythm part has top priority, but that's not necessarily so. If there isn't a designated rhythm part, you'd think the order starts from the lowest numbered part, but even this can be untrue – the Korg M1 gives priority from part 8 first down to part 1 last.

UKMA have some information on file regarding priority of parts – if you are concerned about the timing of a particular device, we can advise you on the part priority and whether this has changed with later ROM versions. **stf**

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CONTACT: 0462 480000

Sequencers can be very expensive – for example, C-Lab *Notator* (Sound Technology ☎ 0462 480000) weighs in at £499 and Steinberg's *Cubase* (Evenlode Soundworks ☎ 0993 898484) at £550 – but now C-Lab have taken their highly successful *Notator*, cut it down and released it as *Notator Alpha* – for only £199!

You can access most of the functions from the main screen. In the middle is the Pattern block which enables you to select from the 99 available patterns. You use each pattern as a part of a song – pattern 1 might be an eight bar intro, for example – and each contains 16 tracks for the various instruments of your song.

On the left is the Arrangement box. From here you put together the patterns in the order you want them to play. On the right is the Track Information box. This enables you to change the MIDI channel or quantise, transpose and alter the velocity of the notes. Meanwhile, *Alpha* continues to play, so you can hear the results immediately.

Next to the Arrangement box are the transport controls. A box at the top of the screen

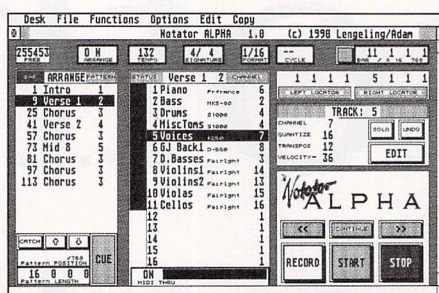
“Alpha is the cheapest notation package on the ST and produces high-quality scoring”

shows the current tempo, the time signature and the left and right locators used as the start and stop points for recording. A MIDI event counter rapidly decreases as you record.

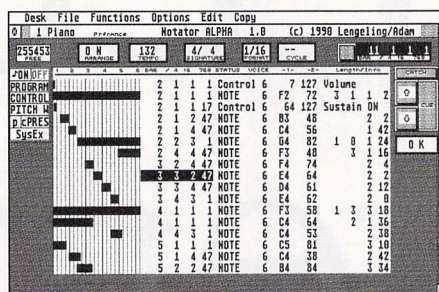
Aside from the scoring, *Alpha* is a reasonable sequencer. You can solo and mute individual tracks and also copy whole or part tracks between patterns. This means you don't have to recreate that masterful piano riff in verse 1 for verse 2, for instance. You use the mouse generally but there are also keyboard equivalents for most of the options and these can save a lot of time. Even so, you can't use some of the features you'd get on a dedicated sequencer.

There is a MIDI Clock Out option so that you can send out timing messages to sync up a drum machine or keyboard sequencer, but there is no MIDI In option. This means that you can't sync *Alpha* to an external clock of any sort – using a tape recorder with a sync code on one track is impossible.

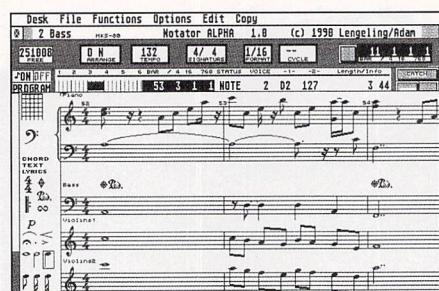
Press the E key and you're taken to *Alpha's* two options. The top of the screen has the Event editor which lists all the MIDI events for the current track in a vertical list. The Graphic grid to the left of each event shows its position in the bar. A nice touch is that deleting events leaves them in the list with a “Deleted” tag. You can also



■ **Notator Alpha's detailed main screen display shows a song in progress. You can access most of the functions from here**



■ **The event editor screen displays MIDI events in list form, along with MIDI channel, note velocity and note position**



■ **Alpha can cater for up to four staves of notation at any one time. It can even show you the Piano sustain pedal if you want**

add events, move them around, or change some of their values.

The main notation editor is just below. The sequencer can break down each crotchet into 192 pieces, but this is rather difficult to show on a score. You set the smallest note value which can be shown via the master quantise box at the top of the screen. What you hear is still based on what is played in, but you can determine how small a note is displayed in the printed score.

From the Edit menu you can also choose whether to see the current track (note display) or the notes for the first four unmuted tracks (full score). By grabbing the dividing line between the graphic and note editors, you can choose which one takes up the majority of the screen or turn the notation off completely.

The most important option from the Edit menu is Parameter mode, which enables you to set up the score display independently for each track. You can't really fit all of a piano score on

one staff, so you can split it into a double staff by choosing a note for the split point. You can even transpose each staff independently.

You can see and print out only four staves (double or single) but you can merge together two tracks on different MIDI channels. *Alpha* calls these “voices,” and they enable you to score eight MIDI channels in all. You can also control whether rests are scored or not.

The current note has a small black box flashing around it. You can delete it, change it or insert another note in that place – there's a selection of notes and symbols to the left of the score and a library to choose from as well. By grabbing the left end of a staff you can move it up and down to ensure that notes from one part don't encroach on another. You can even input notes from a MIDI keyboard in step time.

Alpha also enables you to print out the score, but you must select a suitable printer configuration, and unfortunately you can't edit the commands being sent to the printer. The Epson FX and LQ configurations work with most 9 and 24 pin printers respectively, while the NEC P6/7 and Star LC-10 are already covered.

On the Printer menu you can set whether various things other than the notes are printed – track names and bar numbers for example. You can also adjust the margins. *Alpha* can load in songs from *Creator* and print the score out, and also has the ability to load in MIDI files.

On the notation side *Alpha* is as powerful as *Notator*, and it offers excellent quality printout. However, it is capable of scoring only four tracks at any one time, and you can have only one arrangement, so you have to work in one particular way – recording patterns nose to tail. The lack of a MIDI Clock In is another restriction. However, *Alpha* is the cheapest notation package on the ST, and it's capable of producing quality scoring. If you can handle the sequencing restrictions, it could well be for you. **stf**

FORMAT RATINGS

C-LAB CREATOR ALPHA/£199
Sound Technology/0462 480000

Features	70%
Professional quality notator but a little poor on the sequencing side	
Speed	90%
Almost all editing can be done while the sequencer is playing – you can even change the score	
Ease of Use	80%
Keyboard equivalents make life easy but some edits are slow because of the lack of features	
Results	95%
The printed scores are excellent	
FORMAT VALUE	85%
Very good, although let down by the sequencer	

The Competition

None in its range. *Alpha* is by far the cheapest MIDI sequencing/notation package on the market

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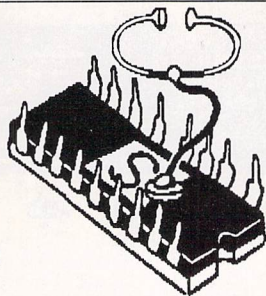
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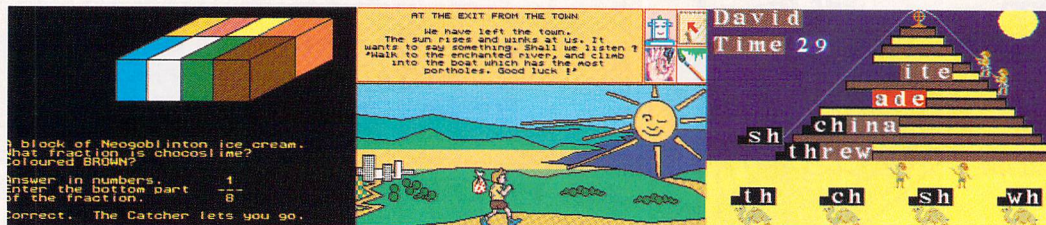
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■ (far left) The type of **Picture Fraction** you find in Coombe Valley's program. Anyone for chocoslime?
 ■ (middle) Go for a pleasant stroll in the fresh outdoors with **Rody and Mastico**
 ■ (right) **Pyramids** – Pull it up, lads! You can do it!

David Jones tries to reason with trolls, build pyramids and decipher a robot's French accent – just to review the latest education software

Education

Fraction Goblins, Picture Fractions, Reasoning With Trolls

AGE RANGE: 5 – 12+ (SEE REVIEW)

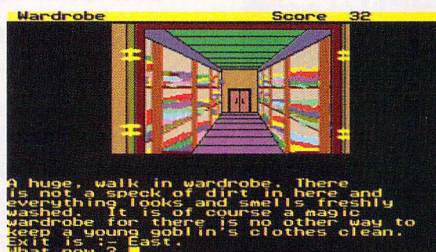
MACHINE: ALL COLOUR STs

SKILLS: NUMERIC, LOGIC, KEYBOARD

PRICE: £12 EACH

FROM: COOMBE VALLEY SOFTWARE

CONTACT: 0626 779695



■ You must look around for a piece of the **Picture Fraction** face. It's here somewhere

Back in *STF 18*, we reviewed Coombe Valley's first three educational adventure programs – *Maths Dragons*, *Cave Maze* and *Tidy the House*. The first two involved children moving around mazes populated by dragons, and these three new programs use a similar theme. They are superbly written and offer a variety of interesting and stimulating challenges.

Fraction Goblins and *Picture Fractions* deal with mathematical skills – more specifically the use of fractions. *Fraction Goblins* offers nine levels of play, from simple fractions of less than one to complex mixed fractions. You can play games using any of the four basic number rules, a combination of the two, or even the entire set.

You go to the *Fraction Goblins'* cave to play with your young friends. You put your pencil case down (silly you) and the goblins empty it, scattering the contents all over the cave. Your job is to search for the missing objects. On your journey through the caves you come across the *Fraction Goblins* themselves. To save yourself from losing any of your reclaimed equipment, you must answer their fraction questions correctly.

People of all ages and abilities can play this game because it covers so many combinations of levels – effectively 63. At the lowest level it

isn't beyond most seven year olds, but the highest levels are tough enough to tax even GCSE pupils. This, along with the natural appeal of adventure games, makes *Fraction Goblins* a definite winner!

In *Picture Fractions*, you find yourself at a *Fraction Goblin's* party. You're playing a game and must search for bits of a face. You play this game against a "catcher" who removes pieces from you if you are unable to answer a question. This time, the fraction problems take the form of

pictures – some spotted toadstools in a group of colourful fungi, for example, or some red segments in a Neogoblinton ice cream. You must look at these, decide what fraction is shown in the picture and enter the appropriate number. *Picture Fractions* is definitely easier to master than *Fraction Goblins* and ideal for eight to ten year olds.

Reasoning With Trolls takes you away from the *Goblins'* cave and onto a maze of islands. Here you take the role of Billy Goat Gruff. Your quest is to get to the far side of the river by climbing over a number of bridges. A troll guards each bridge and in order to pass you must give the right troll the right item from items you have collected on your journey. If you offer the wrong item, the troll asks you a sequence of logic-based questions. If you get



■ **Reasoning With Trolls** puts you in the role of Billy Goat Gruff. Sound familiar?

more than one wrong, he invites you to dinner – and guess what's on the menu?

There are about 800 different questions, chosen at random within the program. These range from verbal questions such as, "All chairs have (covers / arms / cushions / legs / seats)" to numerical reasoning questions such as, "Find the missing number: ?, 8, 10, 13, 17." There are occasional spelling errors in the questions, but no doubt these will be fixed before the final version of the program is released. *Reasoning With Trolls* has eight levels and is designed for five to 12 year olds, but it is probably far more suitable for seven to 11 year olds.

Coombe Valley have maintained the high standard of their excellent edsoft. *Fraction Goblins*, *Picture Fractions* and *Reasoning With Trolls* are produced with great sympathy for their target audiences. They are instantly accessible to children and are sure to keep them interested for months to come. These programs are to be distributed by Exeter Software.

GRAPHICS	7
VALUE FOR MONEY	9
LONG TERM INTEREST	9
EDUCATIONAL VALUE	9
OVERALL	88%

Rody and Mastico

AGE RANGE: 3 – 7

MACHINE: ALL STs

SKILLS: SEE REVIEW

PRICE: £19.99

FROM: UBI SOFT

CONTACT: 0252 860299

UBI Soft are well known for their entertainment software. The English language release of the successful French package *Rody and Mastico* represents their first foray into the educational market. More educational releases, including parts two and three of the *Rody and Mastico* trilogy, are planned in the near future.

Rody and Mastico has been around in France for over two years and has picked up several awards. It comes on one single-sided disk with a 12 page manual, and presents you with a sequence of screens which take our juvenile hero, Rody, on a rather strange adventure. The story screens are divided into three areas: a very large picture, a small text box and a control box containing four icons. Within the control box is the head of a robot narrator

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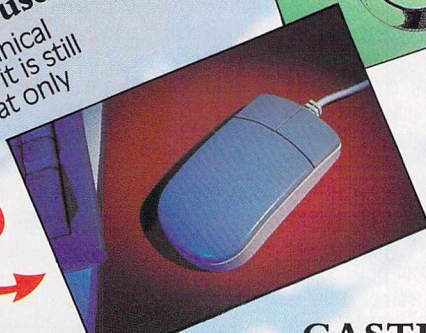
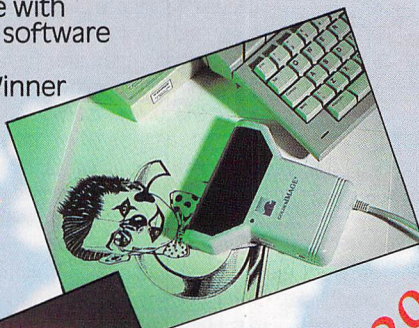
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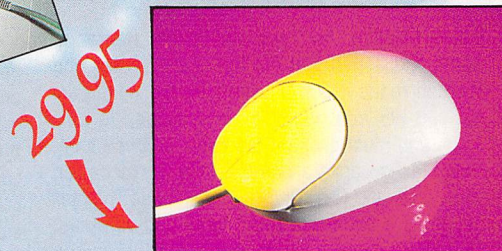
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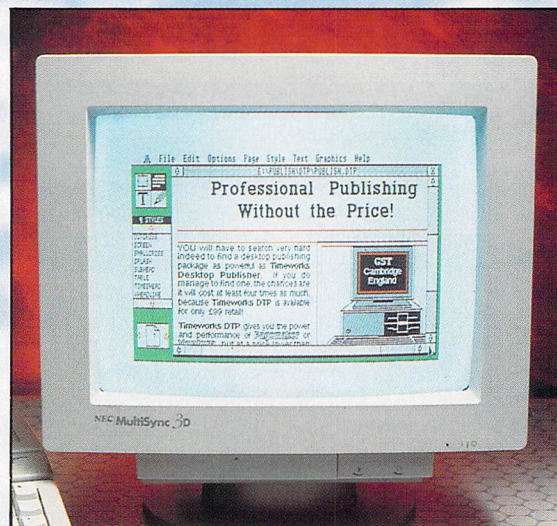
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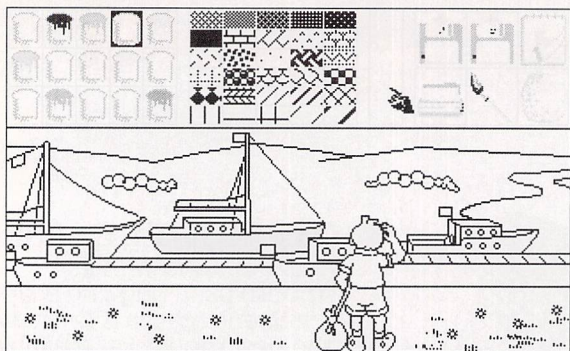
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■ Bored with the story in *Rody and Mastico*? You can always colour in the pics with the fun paint function

called Mastico. You start in Rody's bedroom. Some text appears at the top of the screen and Mastico reads it out. It seems Rody's mum can't find her son because he is hiding. To continue, you must click on the exercise book icon. Now Mastico asks a question. On this occasion you have to find Rody. The mouse pointer becomes a tiny black robot head and you must use this to point to whatever the robot asks you to find. If you are right you can go on to the next frame of the story, hear a more difficult question or recolour the scene with the paint facilities.

In the next frame, you meet Professor Gobino and discover that his chewing gum machine has broken down because the multi-coloured star which makes it work has disappeared. Rody now sets off to find the star. On

his quest he encounters a number of perils, including his main adversary, the King of Darkness. You can progress easily between the frames of the story – find what Mastico asks for and on you go.

If you get bored, you can choose to take a break from the story and paint any scene. Select this option and the picture is shown in outline with a few simple art icons below it. Pick a colour and fill pattern, then move the pointer to any object and colour it in. You can save completed pics to disk or print them out later on.

This is a beautifully written and presented program, but it does suffer from a number of drawbacks. On the positive side, it provides children with a reasonably written adventure story. Stories and questions are all read aloud and you can follow what Mastico says on the screen. Each screen is thoughtfully drawn, with excellent static graphics, and screens are linked by jolly tunes and sound effects. There are no awkward controls to learn – everything is entered using the mouse. The art facility is simple to use too.

The first and most obvious drawback is the speech itself – it is sampled but sounds exceptionally odd. The English version contains an almost direct translation from the French and is spoken with a fairly heavy accent. "Find him and take me to his hand," for example, becomes

"Find im an take me to eez and." "Crown" is pronounced "croon." Some expressions are grammatically incorrect as well – "buy some fruits," "definitively dead" and so on. All this may pose problems, especially for younger children.

What's worse, unless the mouse pointer is very precisely positioned Mastico just says "start again" or "look again." He never offers any help, so finding the right answer may be pure luck. Nothing very educational in that.

The story is simple and naive, and children may soon tire of it. In fact, *Rody and Mastico* is not the "adventure" it claims to be. Adventures give you choices that affect the flow of play. *Rody and Mastico* is basically a computer story. It surely isn't too difficult to link screens in a different way and offer children choices throughout the game. If you want to see how it's done, take a look at some of Coombe Valley's edsoft.

Despite all these grumbles, *Rody and Mastico* is an excellent piece of entertainment software for children. It tells a story, has many visual and aural delights and contains numerous screens to colour in. Educationally, however, there is little here. **stf**

GRAPHICS	9
VALUE FOR MONEY	9
LONG TERM INTEREST	7
EDUCATIONAL VALUE	3
OVERALL	68%

Reading Pack 1, Reading Pack 2

AGE RANGE: 5 – 8 AND 6 – 9

MACHINE: ALL COLOUR STs

SKILLS: READING, SPELLING

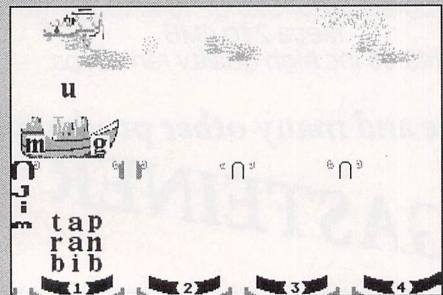
PRICE: £14.95 EACH

FROM: H.S. SOFTWARE

CONTACT: 0792 204519

Each of these packs comes on two single-sided disks and contains two arcade-type educational games written in STOS. Despite unwelcoming covers, they are otherwise very well presented. The programs have a similar aim – you must select missing letters to complete words.

The two programs in *Reading Pack 1* consider simple words of three and four letters. In *Splashdown*, a boat rolls on the ocean waves. It is labelled with a word containing a missing letter. Above the boat is an aeroplane. You enter the missing letter from the keyboard and if it is correct, that letter falls from the aeroplane onto the boat. The boat then explodes and sinks and the completed word falls to the bottom of the



■ This is *Splashdown* – when you manage to complete a word, the boat explodes!

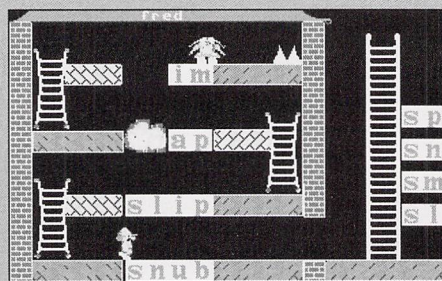
sea. If you're wrong, the airborne bomber flies away. After five correct attempts, you are rewarded by seeing submarines and hot-air balloons move across the screen.

Four children can play *Splashdown* at any one time. It offers the option of selecting the first, second or third letter of each word as the missing letter. Furthermore, words can be chosen as groups – bag, beg, big, bog, bug, for example – or at random. As with all of these programs, a skill selector controls the time limit.

Fire Fight is set in a burning house containing four platforms. Four pairs of letters appear next to a ladder on the right of the screen. First you choose the pair of letters which complete the word on the bottom platform. To do this you move the fireman up and down the ladder using the arrow keys. Press <Return> and he picks up the pair of letters, walks over to the flames and throws them down. The flames now rise to the next platform. This continues until you complete the final word, when a helicopter picks up the fireman and takes him to safety. The program also enables you to set the skill level and choose the missing letters from a group of 20.

In *Reading Pack 2*, *Pyramids* deals with words beginning with the letters ch, sh, th and wh. It is set in a half-built pyramid. The four sets of missing letters appear on the backs of camels, and you pick them up by moving two Egyptian dancers around with the arrow keys and <Return>. Choose a pair of letters and the dancers carry them to the bottom of a pulley system. From there they are winched up to the appropriate word ending. You must complete four words before the timer runs out. Fail and you lose one of the pulley-pullers.

Splooosh looks at common vowel pairs found in the centre of words. You must select appropriate letters to complete words placed on four



■ The fire's higher! Find the right letters and extinguish the flames in *Fire Fight*

diving boards. Find the correct letters and the diver bounces up and down and dives into the water. There's also a two-player option.

These are excellent programs, but they suffer from identical drawbacks. Loading is rather slow, and each time you insert a new disk there is a long credit list to sit through. Once a program has finally loaded, there are numerous parameters to set – play level, the position of missing letters, and more. A game can be over in just a few minutes and then you must go through the whole routine again.

Time delays aside, all these programs are bright, lively and fun to play. They deal with a number of common spelling and reading errors and can help children improve in these areas. You can also tailor them to the individual needs of your child. Recommended.

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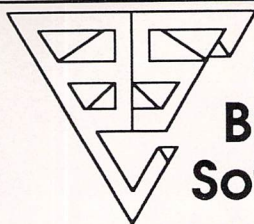
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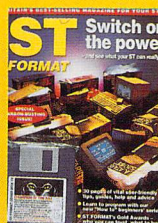
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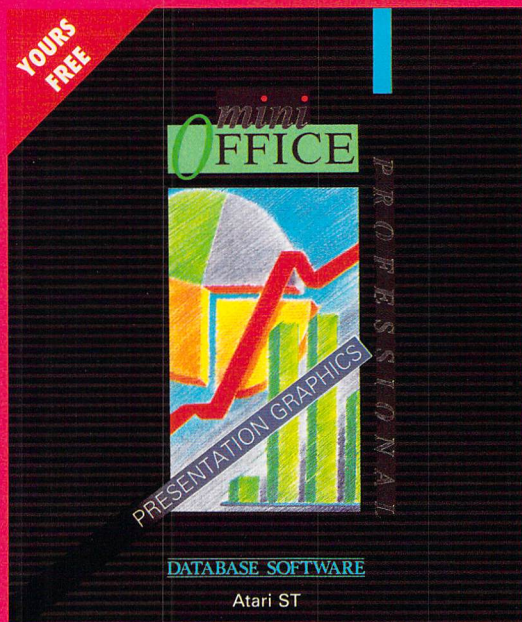


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So far this year I have had the opportunity to compare the service offered by various mail order companies advertising in your pages, including your own mail order department. Each order was in the form of a letter with an enclosed cheque and indicated what I required. While I have no horror stories to relate, the responses I received were varied and not at all what I expected.

I placed four separate orders at the beginning of the year to: MD Office Supplies, Evesham Micros, HiSoft, and ST FORMAT. Of these four I thought only one may have been doubtful – MD Office Supplies. How wrong could I have

been! In less than one week, and before the cheque had even been cashed, I received my order from them – clearly a first class response. This was followed only days later by my order from HiSoft, again before my cheque had been cashed. Another company who know how to treat their customers.

I next received a note from yourselves, indicating that what I had ordered was in fact out of stock but that it would be forwarded to me as soon as possible. To your credit I did indeed receive my order within a week of your note. No complaints so far, only excellent service.

However, I still had received nothing from Evesham Micros, your own ST Company of the year, and their cheque was the first to be cashed as well. So another letter was written and phone calls were made. I was then told,

over the phone, that what I had ordered was out of stock. I finally received it in mid-February.

However, three weeks ago I placed another order with Evesham Micros – and again they were very quick to pay the cheque into their account. I still have received nothing from them. I can't believe this is the sort of service that made them your ST Company of the year – I for one shall not be ordering from them again.

Steve Bamber
Runcorn, Cheshire

stf I'm glad you found our own service so good, Steve. But remember, it was you, our readers, who voted Evesham Micros the best mail order company, presumably on the strength of the service you had received. Yours is not the only complaint we've had, but then few people write to us when they receive an order on time. It looks as if Evesham Micros have been bombarded by so many orders after winning our FORMAT Gold award that they just can't cope with all the attention.

Our Buyer's Guide supplement to issue 21 covered the subject of mail order in detail. (If you haven't got it, turn to page 138 to see how to order back issues.) Once a company have cashed your cheque, they're in a legally-binding contract with you. If no date for delivery is specified in their advert, the company must send you the goods within a reasonable time. The problem is, who determines what is a reasonable time? The British Code of Advertising Practice says that "an advertiser should never take longer than 28 days to fulfil an order." If there's some sort of difficulty with supplies, the company should inform you. In any case, you should wait the 28 days and then contact the company if you've heard nothing in that time.

ATARI: GOOD GUYS OR BAD?

You probably won't print this letter because it does not slag Atari off. I would like to offer them my support. I have recently had cause to consult Atari about problems I have experienced with my hard drive/DMA and found them both extremely supportive and patient while I blew off some steam.

However much Atari have been at fault, I feel ST FORMAT are being very unfair to expect them to modify and especially to guarantee third party products. I have been in business for 18 years and have never once known this to happen. Any company doing so open themselves up to all sorts of legal problems.

Atari UK informed me that they offer developer support, where for a small subscription developers can get all the technical information they need to ensure compatibility. They cannot be held responsible if this option has not been taken up – you can accuse them only of not promoting it fully.

I personally would like to thank Atari for producing such a superb machine. It is open to criticism and problems only because it has so much potential.

Steven Sixsmith, Radnage, Bucks.

■ In your addendum to Barrie Capel's letter (*Feedback*, STF 21) you say, "Atari only guarantee that the STE will work with their own hard drives, which unfortunately means you don't have much of a leg to stand on if you can't get your hard drive to work..." I don't believe that this is the full story.

Over the years, I have listened to a fair number of consumer programs, and one point comes over repeatedly. Where special conditions are attached to the sale of any consumer goods, the customer must be made aware of these conditions before money changes hands. With so many hard drives on the market, a duty is placed on Atari to make the limitations of their DMA chip widely known, and their dealers should be fully informed. Failure to do this gives the consumer the right to repudiate the sale. Apart from the obli-

gations on Atari, dealers also have a responsibility to make customers aware of special restrictions on the use of peripherals. This is especially so if, at the time of purchasing the ST, the customer mentions the possible future use of a hard drive.

What a pity the computer we love to hate has one major problem – a dirty five letter word, *Atari*. They really are the pits – a 17th century company selling 20th century products. Compare Atari's attitude to that of, say, Maxell. I quote from a recent copy of a photographic magazine to which I subscribe:

"Maxell have identified a slight possibility of overheating with certain 2CR5 batteries. Only a small number of Canon cameras made between 1987 and 1989 had Maxell batteries supplied as standard. If you have an affected battery, either phone Maxell (number given) or return the battery to the Maxell Service Centre (address supplied). The battery will be replaced at no cost."

Finally, a word of warning to Atari, particularly Atari UK. Camera makers who, in the '50s and '60s, adopted Atari's present attitude have long since disappeared down the drain. It is high time the calendars at Atari House were changed from 1691 to 1991.

David Lindsay, Brookfield, Scotland

stf We certainly don't disagree with your comments about the STE itself, Steven, but there still remain many people who feel that they have been badly treated by Atari. While Atari have no legal obligation to make third party drives compatible, they are pulling the carpet from under their own feet if they think they can get away with ignoring the people who have supported the ST and STE for so long. After all, the problem – as Atari acknowledge – is a faulty chip, not a basic design incompatibility.

Calling Atari a 17th century company is a bit over the top, though. We at ST FORMAT simply feel that in their own interest they should replace the faulty DMA chips so the STE can work with the drives people own.

My first virus

Please can you help me? I've recently found out that my Atari ST has a virus – a key virus, to be exact. It has already destroyed most of my games, but luckily I've managed to get some of them replaced. How did it get onto my ST? Is there any way to get rid of an internal virus? I've had my ST for over five years and this is the first time anything's gone wrong. A friend said that a new internal drive could get rid of the problem. Can you advise me on what to do?

Barry Pethers
Bow, London

stf It isn't all gloom and doom, Barry. The good news is that there's no such thing as an internal virus. If you switch off your ST for a few minutes, any viruses inside your machine die. The reason your ST appears to have some kind of internal virus is that the disks you're using each time you boot-up are infected.

Just switch off your ST for a few minutes, turn it back on and be sure not to put any disks in your drive. After about 40 seconds the Desktop appears. Your ST is now completely clean.

Get hold of a good virus killer (AVK, £19.95 from On-Line ☎ 081 533 2918, is one of the best) and make certain you write-protect your disk – ST viruses can't copy themselves onto write-protected disks. Now use the virus killer to test each disk and kill any viruses that show up. Avoid testing game disks because these have an unusual structure and sometimes virus killers claim to find a virus that doesn't exist. The best

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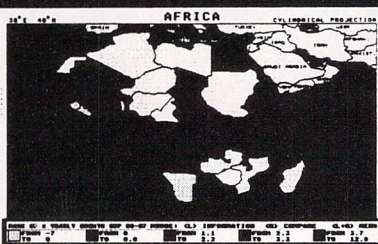
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SHORT BUT SWEET

If you can fit all you want to say on a postcard, just send it in to the usual address

■ I am in the process of starting a PD Library for the ST and was wondering if the game demos you put on your Cover Disks – *Gods, Xenon 2*, and so on – are actually Public Domain, because I would like to include them in my PD Catalogue eventually.

Christopher Howell, Coventry

– No. Although we put the demos on the Cover Disk this does not automatically make them part of the Public Domain. The copyright remains jointly with us and the company who publish that particular game.

■ Could you please tell me whether a variable joystick is compatible with the STE, and if so, where I could purchase one?

Andrew Shepherd, Manchester

– All current ST joysticks use switches. If you move the joystick up, this activates a switch indicating simply that you want to move up. With a variable joystick, a number is passed to your ST recording also the extent to which you push the stick in any given direction. This is of great benefit if you play flight simulations.

The two ports on the side of the STE are capable of accepting input from a variable joystick, but as yet there are no ST games which make use of these additional ports and no such joysticks useable with the STE. According to Atari, certain companies are working on the idea, but it's still some way off.

■ I am interested in learning about assembly language so that I can create my own games and demos. Can you suggest a good assembly language book for beginners?

A potential Care Bear, Pinner

– The best way to learn assembly language is to follow our tutorial series by the Bullfrogs – the most skilled programmers in the business. Turn to page 111 if you've missed it. For additional help, try a book called "Introducing Atari

ST Machine Code" (ISBN 1-873423-01-2), which costs only £20 from zzSoft ☎ 0422 845528.

■ I am considering getting a PC emulator for my 520 STFM and am wondering which one is the best. There are a number on the market but I don't know anything about them.

A Forrest, Brentwood

– There are loads of ST emulators around, from one which turns your beloved ST into a ZX 81, right up to those that give the power of a fully-fledged Apple Macintosh. Be here in issue 25 for our comprehensive roundup of the ST emulators currently available. To be sure you don't miss it, why not subscribe? See page 138.

■ Is there any software which can help me to design bill heads for my own business? If so, could you please tell me the cost of the software and where I can get it?

David Thorniley, Wigan

– Any decent desktop publishing software can do the job for you, David. Take a look at our special DTP feature last issue for a detailed rundown of DTP and word processors and how you can get the most out of them. To get hold of back issues, just turn to page 138.

■ In your Buyer's Guide with issue 21, it says that the Phillips CM8833 Mk2 monitor has a resolution of 600 x 286 pixels. But if the medium resolution on an ST is 640 x 200, surely the picture is distorted? What's more, it shouldn't be able to display high res screens, and yet in the Dataplex advert it is described as a high res colour monitor. Who is right?

Paul Rose, Tadworth

– An important point to clear up here for all would-be monitor buyers. When a monitor is described as "high resolution" you can expect a clearer, crisper display, but this doesn't refer to the same thing as the ST's resolution. The

latter has to do with the signal your ST sends to the monitor – say, "draw a picture made up of 640 pixels by 200" – and the former tells you how many on-screen phosphor dots the monitor can use to do this. These don't necessarily match pixel-for-phosphor. Look for a full explanation in our DESKTOP section soon.

■ How many new games appearing on the ST make use of the STE's extra features – stereo sound, blitter chip, colours and so on?

Douglas Male, Weybridge

– At the moment there are only a handful of games making use of the additional abilities of the STE. Douglas, Dragon's Lair 2 and Wrath of the Demon use the extended colour palette, while Enchanted Lands uses the stereo sound. Many Public Domain demos like the Slaytanic Cult Demo (reviewed in STF 21) are available only for the STE. Art packages like DPaint (reviewed STF 15: 96%) already make extensive use of the STE's enhanced palette.

It's certain that more games are going to utilise the STE's abilities in the near future. Music programs are also likely to surface. In some ways the STE is like a completely new machine, so the number of programs catering for it depends on how many STEs there are out there. Nevertheless, the future for the STE gets brighter all the time – just give it some time.

■ I have recently had a virus that has wiped one of my best games, *MidWinter*. Do I have the right to send my now virus-free disks back to Rainbird/Microprose and ask for another copy of the game, assuming I can provide proof that I actually bought the game and that I am not a pirate wanting a free copy?

Andrew Rees, Haywards Heath

– We contacted Microprose for you, Andrew, and it seems that they can replace your disks free of charge as long as you can provide proof of purchase. Some software houses require a small service charge, though, so always check with the appropriate software house before assuming that they can replace your affected disks for free.

➤ thing to do is write-protect your games as soon as you take them out of the box.

Profit over pleasure

Over the last year I have become increasingly worried about the bias entering software reviews. It seems that many games are receiving unduly good reviews simply because the magazine is selling them in its mail order pages or because the game appears on the Cover Disk. The worst thing about this is that ST FORMAT seems to have started this trend.

The most recent example is *MiG-29 Fulcrum* from Domark. You gave it 92% and said that it had "fast, smooth vector graphics" that "whizz by" – well, only because the few ground objects are extremely simple. It certainly isn't up to the standard of *Falcon* or *F-19*. Both *MiG-29* and Microprose's *F-19 Stealth Fighter* had 9/10 for long term interest. How can this be? *F-19* has hundreds of challenging missions compared to only five simple ones in *MiG-29*. All the other magazines gave *Fulcrum* what it deserved, around 70%, saying that "good packaging doesn't make a good game." I must say I feel upset with *FORMAT* – I wasted nearly £35 on a game which I completed very quickly.

I feel that with the rising costs of software the public has to rely on magazines such as yours to avoid costly mistakes. We need to be

able to trust that the *FORMAT* Gold is awarded for quality and not for profit.

**Tom Woodforde
Enstone, Oxon**

stf You've got it the wrong way round, Tom. We don't give out *FORMAT* Golds because we're selling a certain program through Mail Order. We assess all programs independently before we decide whether or not to sell them ourselves. We include *FORMAT* Gold winners in our Mail Order specials so that you, the reader, can get the best possible value for money.

What makes the *FORMAT* reviewing system so damn special is the way we don't get carried away with all the hype when reviewing new games. If it's crap we say so, and in no uncertain terms. In fact we've received complaints from games publishers several times claiming our reviews were too harsh.

We have no intention of taking any notice of them. It's you who have to part with the cash, and we always bear that in mind. However, just as we're not afraid to pan a poor game, we're not afraid to speak out when we think a game has unrecognised potential either. In the case of *MiG-29* we all felt it was one of the greatest flight sims of all time. The handling of the plane is so technically accurate that you can really get the feel of being in the pilot's seat. If you found

the missions easy then send your tips to Gamebusters – we certainly couldn't complete them all, especially the secret mission at the end.

ST RIP?

I am writing to tell you that there are loads of rumours going round my school that in just two or three years, software for the ST is no longer going to be produced. Could you tell me if this is true, and if so, why?

David Licence, Essex

– Ignore the rumours, David. Software support for any micro depends on new equipment being released to keep the machine alive. Atari are working furiously at the moment extending the ST family. The STE was a big improvement on the STFM, extending the ST's colour palette and improving its sound handling abilities, and software to exploit this is just beginning to appear.

There are loads of new hardware emerging for the ST. Hard drives have dropped in price, new scanners (like Pandaal's A4 scanner, reviewed on page 117) are constantly emerging and the price of laser printers has fallen dramatically. With so much hardware available, there's an enormous number of applications opening up for the ST and new software is going to take advantage of this. Besides, Atari claim there are half a million STs in Britain. Why would software houses turn their backs on all those buyers? **stf**

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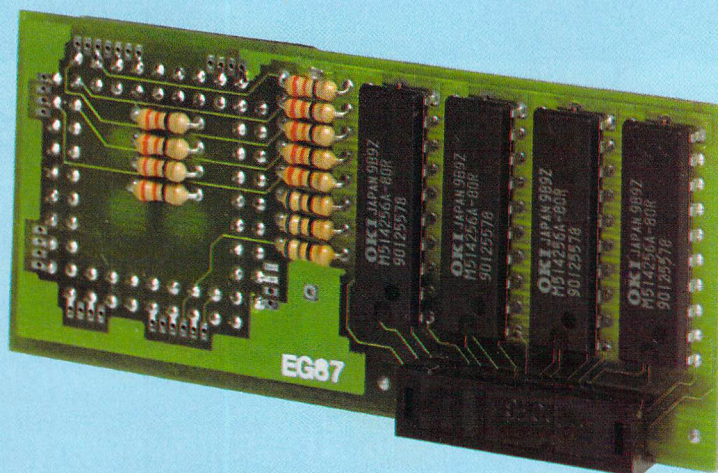
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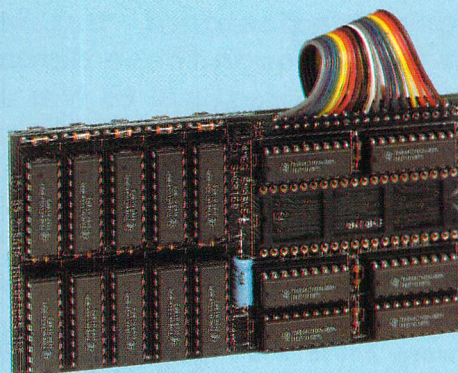
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The great *ST FORMAT* quiz

You think you've read this month's issue from cover to cover? Now's your chance to prove it and win one of five great scanners from Pandaal Marketing at the same time

Usually, *ST FORMAT* competition questions are as easy as writing your name and address on a postcard – but not any more. Plough your way through these demanding questions and you'll deserve to win a prize, but we've got only five scanners up for grabs.

Most of the answers to these 20 questions are contained within this issue of *ST FORMAT*. But be warned, you're going to have to brush up on your knowledge of the ST to answer others

- 1** What software house usually associated with games has taken a foray into the education market this month?
- 2** What new ST game would Leslie Crowther be most at home with?
- 3** What is the PSS-680?
- 4** What is the maximum number of colours it is possible to display on screen at one time using the STE?
- 5** Which on-line system was used by a member of the Royal family?
- 6** Name a sequencer on test this month.
- 7** Where can you find Public Domain software which costs as little as the price of a local telephone call?
- 8** Name the Vietnamese chap who lent his name to a particular form of shading.
- 9** How large is the STE's palette? (How many colours are available in total?)
- 10** What's the maximum page size which can be scanned by Pandaal's new scanner?

11 What's the name for the programming technique of displaying a screen while working on another invisible screen?

12 Name the programming team behind *Interphase*.

13 How much space (in bytes) is left free on this month's *ST FORMAT* Cover Disk?

14 Name the system whereby lines and faces which lie behind foreground objects in 3D screen displays are removed.

15 Give the full name of the American President in office at the start of the Vietnam war.

16 What ST port does an Atari laser printer plug into?

17 In what country is CompuServe based?

18 How fast do frames of animation need to be displayed to give a smooth impression of movement?

19 A powerful song was used in the *Yak Yak Snu Pee Wee Whap Whap Kidda* demo. What is the song, and what year was it released?

20 Name the video device used to show computer-generated images over the top of a moving television or video picture.

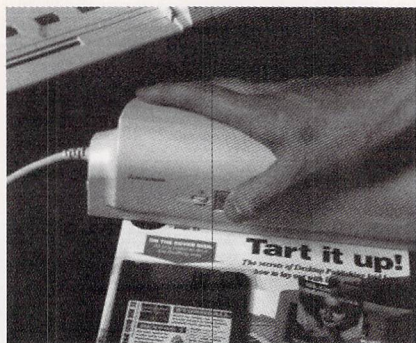
Watch for all the answers next issue, where as first prize in our big quiz we have a tub of clotted cream and a 128-page manual on what you can do with it.

THE RULES BOX

1. All entries must make it into the *ST FORMAT* offices by Friday 24 May 1991.
2. Employees of Pandaal Marketing and Future Publishing and their families are not eligible to enter this competition.
3. Anyone who submits more than one entry to the competition is not only going to be banned, we'll also leak your name to the Poll Tax collector at an appropriate point.
4. No cash alternatives can be offered.
5. The Editor is God and his decision is absolutely final.

HOW TO GET TOP ST SOFTWARE AT ROCK-BOTTOM PRICES – PAGE 126

There's £1,600 worth of Pandaal scanners up for grabs – all of them **FORMAT** Gold winners!



■ Pandaal's new A4 scanner comes in two pieces. This is the paper feed unit which can be bought separately

The world's first budget-priced ST scanner to scan full A4 pages has just hit the *ST FORMAT* pages (turn to page 117 if you missed it), so we thought we'd offer some of these unbeatable gems as prizes to winners of our new *ST FORMAT* quiz.

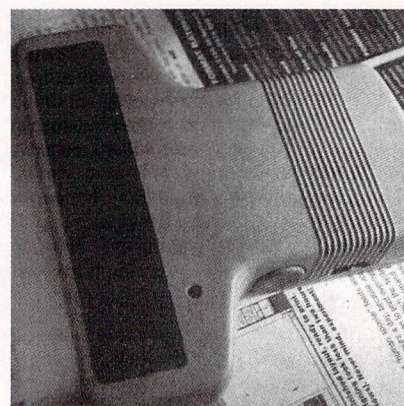
In conjunction with Pandaal Marketing, we're giving away two A4 scanners, complete with the extra sheet feeder (worth £100), and three of Pandaal's top quality hand scanners (reviewed in *STF* 15, where they received the massive score of 93%).

A scanner enables you to copy a black and white page and store it in your ST's memory as a standard picture. For example, you could scan the cartoons in the back of *The Mirror* and end up with them as *Degas Elite* pictures you can print out or import into a desktop publishing package.

There have been hand scanners

WIN!
WIN!
WIN!

on the market for several years now, but these are capable of scanning only a narrow strip of the page. To scan a full A4 sheet of paper you previously needed a flatbed scanner, which works something like a photocopier. It sounds a complex process, and as you'd expect the professional full-page scanners cost upwards of £1,000 – or they did, until now. This new A4 scanner from Pandaal draws on existing hand scanner technology to provide you with a wider scanning area. Simply draw the scanner across your sheet of paper and the image is



■ Also up for grabs in this brain-taxing competition are three of Pandaal's hand scanners. They scan up to 105cm wide and the software to go with them even enables you to piece two narrow scans together to make an A4 scan

converted into black, white and intermediate shades of grey pixels that can be manipulated by your ST.

The sheet feeder is an optional extra, useful if you've got heaps of pages lined up to scan or you're looking for the best quality output. The sheet feeder enables you to line up a page which is then sucked through the scanner. By the time it comes out the other end, your ST has captured the picture into memory. The beauty of the sheet feeder is that it makes sure the scan is perfectly straight.

To get your hands on one of these amazing scanners, just answer the 20 brain-straining questions on the opposite page and send your list of answers to us at The *ST FORMAT* June Quiz, 29 Monmouth Street, Bath BA1 2AP. We need to receive your entries by May 24th to be able to print a list of the winners in next month's issue, so get writing!

■ The Pandaal Daatascan Pro A4 is the first scanner under £500 capable of scanning A4 pages. The basic model is a handheld scanner but with the paper feeder you can make absolutely certain there's no slippage



DON'T MISS OUR VIDEO SPECIAL NEXT ISSUE – OUT THURSDAY 13 JUNE

Twilight zone

The Doors on the scores

"Come on, baby, light my fire, come and set the world on fire. You know that I would be a sinner, if I was to say we haven't got a winner." Ahem.

And here is the winner of the damn-hot-animated screams – er – dreams competition. Get down please, **S Richens of Oxfordshire**, because you've won the trip for two to the Sullivan Bluth Studios in Dublin.

Four hip hard drives are on their way to the winners of our Hard

Drives Competition: **Mr A Penn** from **Surrey**, **Chris Bates** from **Avon**, **John Craggs** of **Durham** and **J S Green** of **Cumbria**. Our congrats to all the winners.

Incidentally, a "hi, dude, nice try, but no banana" to **Mrs Tyler** from **Liversedge** for her most radical and individual entry to the Hard Drives Competition – she sent it in on a five inch disk. Some people are just so strange, it makes you wonder...

Golden egg whisk of the month

We had a letter this month from a **Mr G Seale** of **Westerham** in **Kent**. It seems Mr Seale is less than happy with our Cover Disk. He bought his **ST FORMAT**, went home, tried running the disk and had no joy at all. So he sent off for a new one, and this too failed to do the job.

Mr Seale says he bought the magazine in good faith and is very disappointed. Well, I don't know how to break this to you, but despite what the nice lady in WH Smith might have

you believe, you simply can't use the **ST FORMAT** Cover Disk with your Acorn 3000. You see, we're called **ST FORMAT**, we're all about the Atari ST range of micros and no matter which way round you try to stuff the Cover Disk into your Acorn computer, it won't work.

We had a look in the **FORMAT** medical guide and it has a few suggestions – namely a long lie down, a few weekends in Eastbourne and some bracing cliffside strolls... **stf**

What? You still can't find us?

Even after last month's helping hand, we're still getting quite a few calls from readers who are having difficulty getting hold of **ST FORMAT**, so once again here's the **FORMAT** guide to help you out of your **FORMAT**-less depression.

If your local newsagent doesn't have a copy of **FORMAT** on the shelf, try asking the person standing behind the counter. Even if there aren't any on the shelves, they might have some more hidden away somewhere. If that doesn't work, check one of the bigger newsagents, like WH Smith or John Menzies.

If you don't want to subscribe – and see page 138 for some good reasons why you should – fill in the form below and hand it to your newsagent, saying, "Mr/Ms Newsagent, I'd like you to have this." Remember, every single newsagent in the country – from WH Smith to the corner shop – will be delighted to reserve you a copy each month. If you're really daring, why not ask to have it delivered to your home and save yourself the effort of walking?

Still no luck? Then call the extremely helpful Kate Hodges on 0225 442244 and tell her which of Future's magazines you're after and where you've tried to get hold of it. She can sort out all of your problems in no time at all!

Complete this form and hand it to your newsagent

Please reserve me _____ copy/copies of **ST FORMAT** every month, beginning with the July issue, out Thursday 13 June.

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To the newsagent: **ST FORMAT** is published by Future Publishing and is available from your local wholesaler. Send back all your Future shop save coupons for entry in a free draw to: Kate Hodges, Future Publishing, 30 Monmouth Street, Bath BA1 2BW

NEXT MONTH

Next issue we look at the amazing effects you can achieve with your ST and a video recorder. We also examine digitisers and genlocks and lift the lid on video problems. We interview Atari US and get details on the ST Pad and ST Book. Plus, we've got

some stupendous colour inkjet printers up for grabs in our quiz.

On the games front, we really might have **MidWinter 2** (honestly). It should be a corker. We'll also have **Railroad Tycoon**, **Cruise for a Corpse**, **Lemmings**, **Flight of the Intruder** and **Gauntlet 3**. See you back here on Thursday 13 June!

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"I HAVE"

CYBERCON III (2011-?)

Well almost. You have bravely volunteered to execute 'Operation Nemesis' - The destruction of the merciless Super Defence computer gone mad: Cybercon III.

Equipped with your enhanced power armour salvaged from the wreckage of Cybercon III's onslaught, you must penetrate the defence

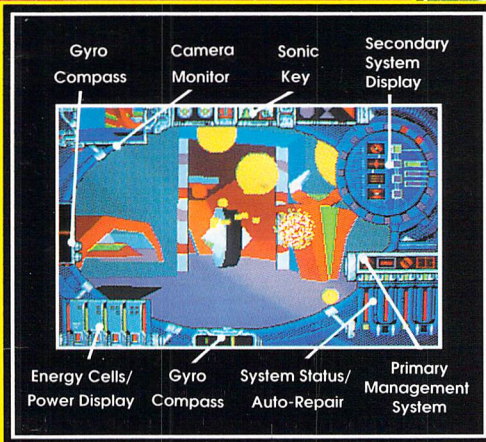
CYBERCON

complex protecting Cybercon III's brain stem and deactivate it.

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- The ultimate 3D environment - named 'Real World', it contains the fastest, smoothest scrolling 3D graphics ever seen.
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Getting in was the easy part: getting out will take everything you've got!



Screen shots are only intended to be illustrative of the game play and not the screen graphics which vary considerably between different formats in quality and appearance and are subject to the computers specifications.

FORMAT AVAILABILITY: Atari ST • Amiga • IBM
GRAPHIC SUPPORT: CGA, EGA, Tandy 16, VGA, MCGA

SONIC SUPPORT: PC Speaker, Ad Lib, Roland
MEMORY REQ: 512K (640K for 256 colour mode)



Game designed by Ricardo Pinto.

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U.S. Gold Ltd., Units 2/3 Holford Way, Holford,
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Amiga Joker (Issue 4) 'Amiga Joker Hit'
'Cybercon III is the ultimate 3D Adventure'

The One (March Issue) 93%

'Experience a complete virtual reality inside your computer.'

CU Magazine (March Issue) 93% CU Superstar
'A stunningly detailed virtual reality.'

C+VG (April) 87%

'One of the classiest 3D products you are likely to see. Bags of action and complex puzzles.'

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NAVY SEALS

AMSTRAD SPECTRUM
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"...a brand new and quite sophisticated game-style.

Alongside the excellent Mathew Cannon sonics are the superlative graphics. The detail in level one is phenomenal and ranks among the best I've seen..."

"On the subject of presentation I can't enthuse enough. The cartridge is put to full use with presentation screens galore, while instantaneous loading makes for superb momentum. It gives a real coin-op feel and shows what cartridges really can do." ZZAP 92%



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